

THE VASCULAR FLORA OF CLINTON COUNTY, OHIO

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The present investigation summarizes the existing, available knowledge of the occurrence and distribution of vascular plants growing without cultivation in Clinton County, Ohio. No previous floras of this county have been published.

Field collections in Clinton County have been made by the writer from 1939 to the present time during vacations and spare time at varying intervals, the longest period of non-collecting having been from 1943 to 1946. Recent collections were made under tenure of a Muellhaupt Scholarship at the Ohio State University (see Acknowledgments). Specimens obtained by other persons have been examined in the herbaria of the Ohio State University and Wilmington College, Wilmington, Ohio. Of the total number of species found in Clinton County, about one-half have been obtained only by the present writer, the remaining one-half having been collected also or solely by other persons. The present annotated list adds many more previously unreported county distribution records to those listed by the writer in Jones (1942, 1943).

In any area new species become established, others are exterminated by man or nature, and some are unavoidably overlooked; hence, no flora is ever really complete. It is thought that this study has been continued long enough to produce a reasonably thorough account of the flora of Clinton County. The annotated list includes a total of 813 species distributed among 108 families, 411 genera, with 21 species of Pteridophytes, 1 Gymnosperm, 189 Monocotyledons, and 602 species of Dicotyledons.

DESCRIPTION OF AREA

Clinton County, in southwestern Ohio, lies within the Till Plains section of the Central Lowland (Fenneman, 1938). Its county seat, Wilmington, is about 50 mi. northeast of Cincinnati and about 60 mi. southwest of Columbus. The area of the county is about 401 sq. mi. Originally a part of the Virginia Military Survey, the county was organized in 1810, although the first settlers arrived several years before that date.

The greater part of the county is within the drainage system of the Little Miami River. The four principal streams are Anderson's Fork, Todd's Fork, Cowan's Creek, and East Fork of the Little Miami River, all of which are tributaries of the Little Miami River. Another large tributary, Caesar's Creek, crosses the extreme northwest corner of the county. That section northeast of the Reesville moraine drains east through tributaries of Rattlesnake Creek to the Scioto River system. A number of small ponds and reservoirs have been formed artificially, and a state-owned lake of 720 acres, Lake Cowan, was created in 1950-1951 by the damming of Cowan's Creek.

Topography varies from nearly level to rolling. In the more dissected western portion, local differences in elevation from valleys to adjacent uplands are rarely more than 100 ft. Elevation above sea level ranges from about 785 ft. (Austin, 1930) in the west (near Clarksville) to about 1180 ft. in the east (near New Vienna).

The surface rocks are of Silurian and Ordovician ages. The Niagara dolomite (Silurian) is present in the north and east, covering nearly two-thirds of the county. The remaining one-third is underlain by Richmond limestone (Ordovician). Forming a narrow band between these two formations is the Brassfield limestone (Silurian). These highest strata are generally rather deeply covered by a mantle

PAST AND PRESENT VEGETATION

Judging by present vegetation and by historical accounts, Clinton County before human settlement was covered with forest, except for certain discontinuous areas in and near the valley of Anderson's Fork, where this stream parallels the Reesville moraine. These small areas were grassland of some kind, probably prairie or marsh. None of these places now are undisturbed by agricultural utilization; however, a few species of prairie plants have survived.

Of the original forest there are now no undisturbed remnants, although a few of the original trees, particularly white oaks, are still standing. The soils of the county are so fertile that agriculture on an intensive scale has replaced the forest. The largest areas of woodland now remaining occur along the steep slopes of stream valleys in the dissected western portion of the county and on the poorly-drained flats of the Illinoian till plain in the south.

According to Rothacher (1942), in a forest survey made under W. P. A. by cooperating state and national agencies, only 12,084 acres or 4.7 percent of the land area of Clinton County are forested. This acreage is distributed among 1052 separate woodlands, the average acreage per woodland being 11.5 acres. Only two woods are over 150 acres in size. Of all woodlands 68 percent are grazed by farm animals, this figure being much higher in the more intensively farmed townships, and somewhat lower in those less intensively farmed.

Present major forest types include beech-maple and mixed hardwoods on the Tazewell drift, oak-hickory and swamp forest on the Early Cary drift, and pin oak with white oak and other hardwoods on the poorly-drained Illinoian till plain. These are very general, predominating forest types; there is much local variation and many exceptions. The acreage of the six most abundant forest types is as follows (Rothacher, 1942): beech-maple—3889 acres; pin oak—2043; oak-hickory—1962; elm-ash-hard maple—1533; mixed hardwoods—1327; oak-hard maple—731.

Frequent references in the catalog have been made to the species of the Illinoian till plain. The flora of this drift area is less similar to that of much of central and western Ohio than is the flora of Wisconsin drift areas. The poorly-drained flats of the Illinoian till plain are the habitats of most of the "unusual" species; where drainage is better, the flora is more like that of the Wisconsin drift to the north. Floristic relationships and forest ecology of the Illinoian till plain have been described by Braun (1935, 1936).

COLLECTORS

Those persons, other than the present writer, who have made most of the collections from Clinton County are listed below. Following their names are the dates of their collections and the herbaria where their specimens are filed (either the Ohio State University, "O", or Wilmington College, "W").

E. Lucy Braun (1921, 1923, 1924, 1930—O; also Braun herb. and Univ. of Cincinnati herb.); Frank O. Hazard (1938—W); C. P. Ingold (1901, 1902—O); Eugene Osborn (1938—W); Rendell Rhoades (1935, 1938, 1949—W); Katie M. Roads (1915, 1926–1939—O); J. S. Vandervort (1892, 1894—O).

Others who have collected small numbers of specimens include: R. A. Adams (1949—W); A. H. Allen (1938, 1939—W); Floyd Bartley and Leslie Pontius (1932—O); Delzie Demaree (1935—O); D. L. James (1875–1877—O); Joseph F. James (1871, 1876, 1879—O); W. A. Kellerman (1894—O); C. L. Nolan (1949—W); E. Rhoades (1939—W); Alice M. Smith (1938—W); Stanley B. Stowe (1906—O); H. H. Vannorsdall (1953—O); Clara G. Weishaupt (1933, 1952—O).

EXPLANATION OF THE ANNOTATED LIST

Taxonomy and nomenclature in the annotated list follow for the most part the recent edition of Britton and Brown's *Illustrated Flora* (Gleason, 1952), with

important aid and certain additions from the recent edition of *Gray's Manual* (Fernald, 1950). Other changes were derived from recent taxonomic studies and from the work of specialists, as noted below. Nomenclature of the grasses is generally that of Hitchcock and Chase (1950). The *Flora of Indiana* (Deam, 1940) was helpful for general information and identification. The recent edition of Britton and Brown was followed because the broader concepts of species and infraspecific taxa (but not the illustrations) seem to the present writer more realistic than those of *Gray's Manual*, 8th edition. Synonyms are mostly from the latter work. The sequence of families, genera, and species is that of Gleason (op. cit.), which is a modification of the Engler and Prantl system. Schaffner (1932) was consulted for ranges of Ohio species, but more up-to-date information was available from records in the herbarium of Ohio State University. In the list the abbreviations, B. & B., and, G. M., refer to Gleason (op. cit.) and Fernald (op. cit.), unless other editions of these works are indicated.

Certain taxonomic groups were determined by specialists, in which case their nomenclature was adopted. These groups are: *Potamogeton*—E. C. Ogden; Juncaceae and *Carex*—F. J. Hermann; *Salix*—C. R. Ball; *Crataegus*—E. J. Palmer; *Fraxinus*—Gertrude N. Miller. As noted in the text, also, certain species of *Botrychium* and *Najas* by R. T. Clausen; certain species of grasses by J. R. Swallen.

The frequency of occurrence within the county is stated in the catalog according to the following arbitrary scale:

Rare.....	1 station
Scarce.....	2-3 stations
Infrequent....	4-5 stations
Frequent.....	6-9 stations
Common.....	10 or more
Abundant....	Very common, i. e., occurs nearly everywhere in suitable habitats

These designations indicate the number of known localities of occurrence of a species; they have nothing to do with the number of individual plants present at a locality. Sight records and herbarium collections are included in the frequency designations. For those species which are of restricted or local occurrence additional information may be listed: number of localities of occurrence (or stations); indicated by the number after the frequency designation; townships in which found (see accompanying map). As more than one station may exist in a township, the number of stations is not necessarily the same as the number of townships. In the case of certain species or in difficult taxonomic groups, no frequency data are listed. The abbreviation, ITP, refers to the Illinoian till plain. Initials in parentheses are those of collectors, when not the present writer.

All unbracketed species are represented by specimens examined by the present writer. The 9 species and 1 hybrid enclosed in brackets, [], were not examined, but the reports of their occurrence are judged to be reliable.

A number of records from Schaffner (1932) and later additions to that catalog, as well as specimens in the Ohio State University herbarium, have been excluded because of erroneous identifications, or of fragmentary material, or in the case of cultivated species which rarely escape and are doubtfully persistent.

Specimens substantiating the annotated list are located (except for species in brackets) mainly in the Ohio State University herbarium, and secondarily (mostly common species) at Wilmington College. Writer's collections are being deposited at Ohio State University to the extent of one specimen of previously unreported species, while other additional specimens will remain in his possession.

Species introduced or adventive from foreign continents are denoted by an asterisk. All others are species native to this continent, regardless of whether indigenous in the county. This practice follows *Gray's Manual*, 8th edition.

ANNOTATED LIST

PTERIDOPHYTA

Equisetaceae

- Equisetum arvense* L. Field Horsetail. Common along railroads and in moist places.
Equisetum hiemale L. Scouring Rush. Frequent along stream banks.

Ophioglossaceae

- Botrychium dissectum* Spreng. Grape Fern.
 Var. *dissectum*. Infrequent in moist woods. Often occurs with following variety but is less common.
 Var. *obliquum* (Muhl.) Clute. Frequent in moist woods. Determined by R. T. Clausen.
Botrychium virginianum (L.) Sw. subsp. *virginianum*. Rattlesnake Fern. Frequent in moist, rich woods. Determined by R. T. Clausen.
Ophioglossum vulgatum L. Adder's-tongue Fern. Rare: Chester. Moist woods.

Osmundaceae

- Osmunda regalis* L. var. *spectabilis* (Willd.) Gray. Royal Fern. Scarce: wet places in pin oak woods in ITP; near New Antioch (JSV).

Polypodiaceae

- Adiantum pedatum* L. Maidenhair Fern. Frequent in rich woods.
Pellaea atropurpurea (L.) Link var. *Bushii* Mack. (*P. glabella* Mett.). Smooth Cliff Brake. Scarce: Liberty. On limestone cliffs.
Onoclea sensibilis L. Sensitive Fern.. Infrequent in wet places in woods.
Asplenium platyneuron (L.) Oakes. Ebony Spleenwort. Frequent in dry or moist woods.
Camptosorus rhizophyllus (L.) Link. Walking Fern. Scarce: Liberty. On limestone cliffs.
Athyrium pycnocarpon (Spreng.) Tidestr. Narrow-leaved Spleenwort. Scarce: 3. Chester, Vernon. Moist, rich woods.
Athyrium thelypteroides (Michx.) Desv. Silvery Spleenwort. Scarce: Adams (HHV); near New Antioch (JSV). Collections are of forma *thelypteroides*.
Athyrium Filix-femina (L.) Roth var. *Michauxii* Mett. (*A. angustum* (Willd.) Presl). Lady Fern. Infrequent in moist woods, mainly in ITP.
Woodsia obtusa (Spreng.) Torr. Blunt-lobed Woodsia. Rare: Liberty. Limestone cliffs. Perhaps to be found, also, in Chester and Union Twps.
Cystopteris bulbifera (L.) Bernh. Bulblet Bladder Fern. Rare: Liberty. Limestone cliffs. Perhaps to be found, also, in Chester and Union Twps.
Cystopteris fragilis (L.) Bernh. var. *protrusa* Weatherby. Fragile Fern. Frequent in moist woods.
Thelypteris hexagonoptera (Michx.) Weatherby. (*Dryopteris hexagonoptera* (Michx.) C. Chr.). Broad Beech Fern. Scarce: Vernon—rich woods; near New Antioch (Vandervort, Kellerman).
Thelypteris palustris Schott var. *pubescens* (Lawson) Fern. Marsh Fern. Rare: Vernon (RR).
Dryopteris austriaca (Jacq.) Woynar var. *spinulosa* (O. F. Muell.) Fiori. (*D. spinulosa* (O. F. Muell.) Watt.). Spinulose Shield Fern. Rare: near New Antioch in 1894 (JSV).
Polystichum acrostichoides (Michx.) Schott. Christmas Fern. Frequent in woods; the most common fern in the dissected western part of the county.

SPERMATOPHYTA

GYMNOSPERMAE

Cupressaceae

- Juniperus virginiana* L. Red Cedar. Common in dry fields, thin woods, and along fence-rows.

ANGIOSPERMAE

Monocotyledoneae

Typhaceae

- Typha latifolia* L. Common Cat-tail. Frequent in wet places.
Typha angustifolia L. Narrow-leaved Cat-tail. Rare: Jefferson. Wet area along railroad.

Najadaceae

- Potamogeton nodosus* Poir. Rare: Washington. Lake Cowan.
Potamogeton foliosus Raf.
 Var. *foliosus*. In three streams in north and central parts.
 Var. *macellus* Fern. Richland. In pond in abandoned quarry at Melvin.
Najas gracillima (A. Br.) Magnus. Rare: Washington. Present in north part of Lake Cowan in enormous numbers in autumn, 1953. Determined by R. T. Clausen.

Alismaceae

Alisma subcordatum Raf. Water Plantain. Frequent in wet places.

Sagittaria latifolia Willd. Arrowhead. Common in wet places. Collections include at least two named forms.

Gramineae

**Bromus tectorum* L. Downy Chess. Common in waste places and along roadsides; often very abundant where found.

**Bromus inermis* Leyss. Hungarian Brome Grass. Infrequent along roadsides.

Bromus pubescens Muhl. ex Willd. (*B. purgans* L. f. *laevivaginitus* Wieg.). (cf. Wagnon, 1952). Scarce: 2. Vernon, Chester. Dry oak woods; moist beech-maple-white oak woods.

**Bromus commutatus* Schrad. var. *apricorum* Simonkai. Vernon. Dry hillside. Det. by J. R. Swallen.

**Bromus japonicus* Thunb. Apparently, rapidly increasing in abundance in fields and waste places. Two collections det. by J. R. Swallen.

**Festuca elatior* L. Meadow Fescue. Infrequent in woodland pastures and along roadsides.

Festuca obtusa Biehler. Nodding Fescue. Scarce: 3. Vernon, Chester. Moist, rich woods. Det. by J. R. Swallen.

Glyceria striata (Lam.) Hitchc. Infrequent in wet places.

**Poa annua* L. Annual Bluegrass. Frequent in lawns and waste places.

**Poa compressa* L. Canada Bluegrass. Common in a variety of habitats, especially in dry open woods.

**Poa pratensis* L. Kentucky Bluegrass. Abundant in moist and dry woods, pastures, and waste places.

Poa sylvestris Gray. Scarce: 2. Vernon, Liberty. Dry wooded hillside; dry ledges of limestone. Det. by J. R. Swallen.

Eragrostis hypnoides (Lam.) BSP. Scarce: 2. Liberty, Jefferson. Muddy banks of streams.

Eragrostis spectabilis (Pursh) Steud. (*E. pectinacea* (Michx.) Steud.), Purple Lovegrass. Infrequent along roadsides and in fields.

Eragrostis Frankii C. A. Meyer. Scarce: Liberty. Moist, open bottomland. Also at unknown loc. (KMR).

Eragrostis pectinacea (Michx.) Nees. Frequent along roadsides and in waste places. Det. by J. R. Swallen.

Eragrostis capillaris (L.) Nees. Scarce: 3. Liberty. Dry, rocky hillside. Near New Vienna (CPI). Richland. In corn field. The last collection det. by J. R. Swallen.

**Eragrostis cilianensis* (All.) Lutati (*E. megastachya* (Koel.) Link). Common weed in gardens and waste places.

**Dactylis glomerata* L. Orchard Grass. Abundant in permanent pastures, fields, and waste places.

Triodia flava (L.) Smyth. Purple-top. Common along roadsides and in waste places.

**Agropyron repens* (L.) Beauv. Quack Grass. Infrequent along roadsides and in waste places.

Elymus villosus Muhl. Infrequent to frequent in woods and thickets.

Elymus riparius Wieg. Infrequent to frequent in moist places and along streams. One collection det. by J. R. Swallen.

Elymus virginicus L. Frequent in woods and waste places.

Hystrix patula Moench. Bottle-brush Grass. Frequent in dry woods, usually along streams in rocky or gravelly places.

Hordeum jubatum L. Squirreltail Grass. Rare: roadside in Union Twp.

**Lolium multiflorum* Lam. Italian Rye Grass. Rare: along railroad near New Vienna (KMR).

Sphenopholis intermedia (Rydb.) Rydb. Scarce: 2. Chester, Liberty. Moist, level woods; dry soil on limestone outcrop.

**Avena sativa* L. Oats. Occasional, along railroads and roadsides.

**Arrhenatherum elatius* (L.) Mert. & Koch. Oat-grass. Rare: "along a road near New Vienna" (KMR).

Danthonia spicata (L.) Beauv. Poverty-grass. Common in stony, overgrazed pastures, dry oak woods, and similar places.

Calamagrostis canadensis (Michx.) Beauv. Blue-joint. Rare: Jefferson. Clay bank along railroad.

Agrostis stolonifera L. var. *major* (Gaud.) Farw. (*A. alba* L.). Red-top. Infrequent in moist fields and along roadsides.

Agrostis Elliottiana Schult. Rare: Vernon. Moist pasture in ITP.

Agrostis perennans (Walt.) Tuckerm. Upland Bent. Frequent in moist or dry woods and in rocky places. Quite variable. One specimen det. by J. R. Swallen.

Cinna arundinacea L. Wood Reed Grass. Common in moist woods, especially in ITP.

**Phleum pratense* L. Timothy. Frequent in waste places.

Muhlenbergia Schreberi Gmel. Common in fields, open woods, and waste places.

Muhlenbergia sobolifera (Muhl.) Trin. Rare: Liberty. Dry soil over limestone outcrop.

- Muhlenbergia frondosa* (Poir.) Fern. Infrequent in moist or wet places. One specimen det. by J. R. Swallen.
- Sporobolus asper* (Michx.) Kunth. Infrequent weed along railroads and roadsides; seen only in southern half of county.
- Sporobolus vaginiflorus* (Torr.) Wood. Scarce: 2. Along railroads in Wilmington and near New Vienna (KMR).
- Sporobolus neglectus* Nash. Rare: Wilson. Moist bank of Anderson's Fork in area which was probably once prairie or marsh.
- Brachyelytrum erectum* (Schreb.) Beauv. Rare: Vernon. Dry oak woods.
- Aristida dichotoma* Michx. At unknown locality (KMR).
- Aristida longespica* Poir. Infrequent in poorly-drained fields and waste places in ITP. Often abundant where found and probably common within ITP.
- Aristida oligantha* Michx. Infrequent in fields and along railroads; seen only in southern half of county.
- * *Eleusine indica* (L.) Gaertn. Goose Grass. Frequent weed in waste places.
- Sparina pectinata* Link. (*S. Michauxiana* Hitchc.). Prairie Cordgrass, Slough Grass. Scarce: 2. Wilson. In drainage ditch; roadside ditch; both stations in probable former prairie or marsh.
- Hierochloa odorata* (L.) Beauv. Sweet Grass. Rare: near Blanchester in 1921 (ELB).
- * *Anthoxanthum odoratum* L. Sweet Vernal Grass. Rare: near Blanchester in 1927 (KMR).
- Phalaris arundinacea* L. Reed Canary Grass. Scarce to infrequent along roadsides.
- Var. *picta* L. Ribbon Grass. This cultivated variety found along railroad near New Vienna (KMR).
- Leersia oryzoides* (L.) Sw. Rice Cutgrass. Frequent in moist or wet places.
- Leersia virginica* Willd. Whitegrass. Common in moist places, especially along streams.
- * *Digitaria sanguinalis* (L.) Scop. Crabgrass. Frequent to common in waste places.
- * *Digitaria ischaemum* (Schreb.) Muhl. Small Crabgrass. Infrequent to frequent in waste places.
- Paspalum laeve* Michx. Rare: Vernon. Clearing in ITP. Det. by J. R. Swallen.
- Paspalum pubescens* Muhl. Scarce: 3. Union, Chester, Vernon. Pastures, open woods, moist clearings. One specimen det. by J. R. Swallen.
- * *Panicum miliaceum* L. Broomcorn Millet. Rare: near New Vienna (KMR).
- Panicum flexile* (Gatt.) Scribn. Scarce: collected twice by Katie M. Roads, including once in "low place near Cuba".
- Panicum capillare* L. Witchgrass. Common in corn fields, along roadsides, and in waste places. One specimen det. by J. R. Swallen.
- Panicum Gattingeri* Nash. Rare: Vernon. Moist, sandy place along stream. Det. by J. R. Swallen.
- Panicum dichotomiflorum* Michx. Common in corn fields and waste places.
- Panicum agrostoides* Spreng. Scarce: 2. Wilson, Marion. Along railroad; swampy open place in ITP.
- Panicum stipitatum* Nash. Rare: Jefferson. Drainage ditch in ITP.
- Panicum virgatum* L. Switchgrass. Infrequent along railroads and roadsides.
- Panicum depauperatum* Muhl. Rare: Liberty. Dry soil over limestone outcrop.
- Panicum linearifolium* Scribn. Rare: Vernon. Dry, rocky, open slope.
- Panicum implicatum* Scribn. Rare: Liberty. Dry soil on limestone ledges. Det. by J. R. Swallen.
- Panicum huachucae* Ashe (incl. var. *fasciculatum* (Torr.) Hubb.). Scarce to infrequent in woods. One collection (Richland Twp.) det. by J. R. Swallen as var. *fasciculatum*.
- Panicum polyanthes* Schult. Rare: Jefferson. Poorly-drained pin oak woods in ITP.
- Panicum clandestinum* L. Infrequent in ditches and along railroads, mainly in ITP. One specimen det. by J. R. Swallen.
- Panicum latifolium* L. Richland—along railroad. Det. by J. R. Swallen.
- Panicum Boscii* Poir. (incl. var. *molle* (Vasey) Hitchc. & Ch.). Infrequent in woods.
- Panicum microcarpon* Muhl. Scarce: 3. Marion, Jefferson. In swampy, pin oak woods of the ITP. Probably, common and characteristic within the ITP.
- Panicum dichotomum* L. Scarce: Vernon. Dry, open woods, with oaks or mixed hardwoods.
- * *Echinochloa crusgalli* (L.) Beauv. (incl. *E. pungens* (Poir.) Rydb.). Barnyard Grass. Abundant in all sorts of waste places. One collection is *E. pungens*; it grew with *E. crusgalli*. Det. by J. R. Swallen.
- * *Setaria glauca* (L.) Beauv. (*S. lutescens* (Weigel) Hubb.). Yellow Foxtail Grass. Abundant in waste places.
- * *Setaria viridis* (L.) Beauv. Green Foxtail Grass. Abundant in waste places.
- * *Setaria Faberii* Herrm. Giant Foxtail Grass. Frequent in corn fields, along roadsides, and in other waste places. Apparently becoming more common. Det. by J. R. Swallen.
- Cenchrus pauciflorus* Benth. (sensu B. & B., & Hitchc. & Chase). Sandbur. Rare: along railroad near New Vienna in 1937 (KMR).
- Andropogon scoparius* Michx. Little Bluestem. Scarce: 2. Jefferson, Liberty. Along railroad (glaucous form); dry opening over limestone.

Andropogon Gerardi Vitm. (*A. furcatus* Muhl.). Big Bluestem. Scarce: 3. Union: roadside and a railroad near Melvin, appearing to be a prairie remnant at former place. Near New Vienna (KMR).

Andropogon virginicus L. Broomsedge. Abundant in fields, along roadsides, and in waste places.

**Sorghum halepense* (L.) Pers. Johnson Grass. Frequent in waste places, and along roadsides and railroads, especially in southern part of county.

Sorghastrum nutans (L.) Nash. Indian Grass. Rare: Jefferson. Along railroad.

Cyperaceae

Cyperus flavescens L. Rare: near Cuba in 1934 (KMR). Specimen det. by H. T. O'Neill.

Cyperus rivularis Kunth. Scarce: 2. Vernon, Liberty. Moist, sand bar; open bottomland.

Cyperus strigosus L. Frequent in moist places.

Cyperus esculentus L. Frequent in moist places.

Eleocharis obtusa (Willd.) Schult. Frequent in wet places, especially around Lake Cowan and in ITP.

Eleocharis Smallii Britt. Liberty, Washington. In wet places.

Eleocharis calva Torr. Washington. Shore of Lake Cowan.

Scirpus Purshianus Fern. (*S. debilis* Pursh). Rare: Washington. Mud flat on north shore of Lake Cowan. Determined by F. J. Hermann.

Scirpus validus Vahl. Great Bulrush. Frequent in wet places.

Scirpus fluviatilis (Torr.) Gray. River Bulrush. Rare: Washington. Mud flat on north shore of Lake Cowan.

Scirpus cyperinus (L.) Kunth. (sens. str.). Frequent in wet places.

Scirpus atrovirens Muhl. Frequent in wet places.

Scirpus lineatus Michx. Infrequent in wet places.

Carex cephalophora Muhl. Frequent in moist or dry woods.

Carex rosea Schkuhr. Union. In moist woods.

Carex convoluta Mack. Vernon. In oak woods.

Carex gravis Bailey. Union. In open woods.

Carex sparganioides Muhl. Locality unknown (CPI). Also, Vernon. In wooded bottomland.

Carex vulpinoidea Michx. Fox Sedge. Common in moist places.

Carex stipata Muhl. Vernon. In ITP in pin oak woods and adjacent swampy clearing.

Carex conjuncta Boott. Frequent in woods.

Carex scoparia Schkuhr. Jefferson. In wet place in ITP.

Carex cristatella Britt. Collected in three generally-distributed localities in moist woods.

Carex normalis Mack. Union. In open woods.

Carex Willdenovii Schkuhr. Vernon. Dry slope in oak woods.

Carex Jamesii Schwein. Three localities in Clark and Vernon Twps. in moist woods.

Carex artilecta Mack. Chester, Vernon. Wooded slopes.

Carex communis Bailey. Chester. Dry hillside.

Carex hirtifolia Mack. Frequent in moist woods.

Carex laxiculmis Schwein. var. *copulata* (Bailey) Fern. Clark. In moist, rich woods.

Carex albusina Sheldon. Frequent, mainly in wooded ravines of beech-maple in western half of county.

Carex blanda Dewey. Infrequent in moist woods.

Carex gracilescens Steud. Marion. Pin oak woods.

Carex Haleana Olney. Adams, Chester. Around spring; moist, level woods of elm-ash.

Carex oligocarpa Schkuhr. Union. Moist, rich woods.

Carex Hitchcockiana Dewey. Chester. Wooded slope.

Carex amphibola Steud. var. *turgida* Fern. Union. Moist, open woods.

Carex gracillima Schwein. Vernon. In swampy place in ITP.

Carex Davisii Schwein. & Torr. Frequent in wet or moist woods, including wooded bottomlands.

Carex Swanii (Fern.) Mack. Jefferson, Chester. In poorly-drained woods.

Carex hirsutella Mack. Frequent in moist woods.

Carex caroliniana Schwein. Jefferson. In poorly-drained, white oak woods in ITP.

Carex Shortiana Dewey. Frequent in moist places.

Carex crinita Lam. Marion. In wet places.

Carex Frankii Kunth. Frequent in wet places.

Carex squarrosa L. Frequent in poorly-drained woods and wet places, mainly in ITP.

Carex typhina Michx. Jefferson. In poorly-drained woods in ITP.

Carex lurida Wahl. Union. Along small stream.

Carex Grayii Carey. Frequent in poorly-drained woods, mainly in ITP.

Carex lupulina Muhl. Union in 1871 (JFJ); Marion—wet place.

Araceae

Arisaema triphyllum (L.) Schott var. *triphyllum*. Jack-in-the-Pulpit. Common in moist, rich woods.

- Arisaema Dracontium* (L.) Schott. Green Dragon. Infrequent in ravines and moist woods.
Symplocarpus foetidus (L.) Nutt. Skunk Cabbage. Rare: Adams. In seepage area around spring at base of "Bunker Hill" (first found by FOH).
Acorus Calamus L. Sweetflag, Calamus. Infrequent in wet places and along small streams.

Lemnaceae

- Lemna minor* L. Common Duckweed. Infrequent in streams and artificial ponds; Lake Cowan.

Commelinaceae

- Tradescantia subaspera* Ker. var. *subaspera*. (*T. pilosa* Lehm.). Zigzag Spiderwort. Scarce: 2. Vernon, Washington. Dry, rocky, wooded slope; moist bottomland.
Tradescantia virginiana L. Virginia Spiderwort. Scarce: 3. Vernon, Richland. Dry, rocky, wooded slope; moist woods.
 **Commelina communis* L. Dayflower. Frequent in waste places.

Juncaceae

- Juncus effusus* L. var. *solutus* Fern. & Wieg. Frequent in wet places.
Juncus tenuis Willd. (*J. macer* S. F. Gray). Path Rush.
 Var. *tenuis*. Abundant in fields and permanent pastures, open woods, and waste places.
 Forma *anthelatus* (Wieg.) Hermann in pin oak woods in Jefferson Twp.
 Var. *Dudleyi* (Wieg.) Hermann. (*J. Dudleyi* Wieg.). Scarce: 3. Union, Richland. Along railroads in wet places.
Juncus biflorus Ell. Scarce: 3. Vernon, Chester; near New Vienna (KMR). Swampy clearing in ITP; abandoned field; along railroad.
Juncus Torreyi Cov. Frequent in wet places, usually along railroads or along small streams.
Juncus brachycarpus Engelm. Scarce: 3. Jefferson, Vernon. Wet places in clearings in ITP. Probably not uncommon within ITP.
Juncus acuminatus Michx. Scarce: Jefferson, Marion. Wet places in ITP.
Luzula echinata (Small) Hermann. Wood Rush. Infrequent: dry, wooded hillsides and moist woods in southern and western parts of county.

Liliaceae

- **Hemerocallis fulva* L. Tawny Day-lily. Common along roadsides.
Allium tricoccum Ait. Wild Leek. Common in moist, rich woods.
 **Allium vineale* L. Field Garlic. Locally abundant along roadsides and in waste places.
Allium canadense L. Wild Garlic. Frequent in moist woods.
Lilium canadense L. Canada Lily. Frequent: Chester, Wilson, Richland, Vernon, Jefferson. In moist or wet woods.
Erythronium americanum Ker. Yellow Adder's-tongue, Trout Lily, Dog-tooth Violet. Abundant in moist, rich woods.
Erythronium albidum Nutt. var. *albidum*. White Adder's-tongue. Frequent in moist, rich woods.
Camassia scilloides (Raf.) Cory. Wild Hyacinth. Infrequent to frequent in moist, rich woods.
 **Ornithogalum umbellatum* L. Star-of-Bethlehem. Occasional in waste places and open woods.
 **Asparagus officinalis* L. Common Asparagus. Common along roadsides, open woods, and waste places.
Smilacina racemosa (L.) Desf. False Solomon's Seal. Abundant in moist, rich woods.
Smilacina stellata (L.) Desf. Starry False Solomon's Seal. Rare: Richland. In ditch along railroad.
Uvularia grandiflora Sm. Large Bellwort. Frequent in moist, rich woods.
Polygonatum canaliculatum (Muhl.) Pursh (sensu B. & B.). Scarce to infrequent in woods.
Polygonatum biflorum (Walt.) Ell. (sensu B. & B.). True Solomon's Seal. Frequent in moist, rich woods.
Trillium sessile L. Sessile Trillium. Common in moist woods.
Trillium grandiflorum (Michx.) Salisb. Large-flowered Trillium. Common in moist, rich woods.
Trillium Gleasoni Fern. (*T. declinatum* (Gray) Gleason; *T. flexipes* Raf.). Rare: Richland. In poorly-drained woods of elm-ash-silver maple-red maple. In this population, flower color varies from white to red-purple.
Trillium nivale Riddell. Snow Trillium. Rare: Liberty. Shaded, moist top of low cliff of limestone along Anderson's Fork.
Smilax herbacea L. Carrion-flower. Frequent in moist woods. Of three collections, one is of var. *herbacea*, while two are of var. *lasioneuron* (Hook.) A. DC.
Smilax ecirrhata (Engelm.) Wats. Collected near New Antioch in 1894 (JSV).
Smilax glauca Walt. var. *glauca*. Glaucous Greenbrier. Scarce: 2. Vernon, Jefferson, Poorly-drained, pin oak woods in ITP.
Smilax hispida Muhl. Bristly Greenbrier. Common in various kinds of woods.

Dioscoreaceae

Dioscorea villosa L. Wild Yam. Infrequent in moist woods.

Amaryllidaceae

Hypoxis hirsuta (L.) Cov. Yellow-eyed-grass. Scarce: 3. Adams, Liberty. Open or thinly-wooded slopes in thin soil over limestone.

Iridaceae

Sisyrinchium graminoides Bickn. (*S. angustifolium* Mill., of G. M.). Blue-eyed-grass. Frequent in moist places in woods and in open.

Orchidaceae

Orchis spectabilis L. Showy Orchis. Infrequent: 4. Green, Chester, Adams. Moist, rich woods and on flood plains. Only a few plants remain.

Habenaria peramoena Gray. Fringeless Purple Orchid. Scarce: 3. Vernon, Jefferson, Clark. Clearings and open pin oak woods on poorly-drained flats of ITP.

Spiranthes cernua (L.) Richard. Ladies'-tresses. Scarce: 2. Vernon, Jefferson. Poorly-drained clearings and woods in ITP.

Liparis liliifolia (L.) Richard. Lily-leaved Twayblade. Rare: Vernon. Moist, well-drained woods.

Aplectrum hyemale (Muhl.) Torr. Putty-root. Rare: Vernon. Moist hillside. (Mr. and Mrs. Arthur Harper and H. H. Vannorsdall.)

Dicotyledoneae**Saururaceae**

Saururus cernuus L. Lizard's-tail. Infrequent in wet places and along larger streams.

Salicaceae

Populus grandidentata Michx. Large-toothed Aspen. Rare: Vernon. Forming pure stand over small area of moist woods.

Populus tremuloides Michx. Quaking Aspen. Scarce: 2. Jefferson. Poorly-drained places in ITP.

Populus deltoides Marsh. Cottonwood. Infrequent, mainly in poorly-drained woods of ITP.

Salix caroliniana Michx. Carolina Willow. Rare: Liberty. Along Anderson's Fork.

Salix nigra Marsh. Black Willow. Abundant along streams and in other wet places. This and *S. interior* are the most common willows.

**Salix fragilis* L. Crack Willow. Collected in Liberty Twp. along stream. Undoubtedly elsewhere. Hybrids of this species with *S. alba* L. were collected twice (Washington, Union). In one collection characters of *S. alba* predominate; in the other the reverse is true. Hybrids probably are not uncommon. Although typical *S. alba* has not been collected, it is expected to occur in the county.

Salix interior Rowlee. Sandbar Willow. Common along streams.

Salix rigida Muhl. var. *angustata* (Pursh) Fern. Heart-leaved Willow. Liberty. Along Anderson's Fork. Plants were seen along streams at four other generally-distributed localities, but it is not known whether these are typical variety or var. *angustata*.

Salix discolor Muhl. var. *latifolia* Andersson. Pussy Willow. Rare: Richland. Along a railroad.

Salix humilis Marsh. Upland Willow. Jefferson. Wet place. Expected elsewhere in ITP.

Salix tristis Ait. Dwarf Upland Willow. Collected by Braun in pin oak woods, Westboro, 8-20-23 (specimen determined by C. R. Ball, as are those of present writer).

Juglandaceae

Juglans cinerea L. Butternut. Infrequent in bottomlands.

Juglans nigra L. Black Walnut. Abundant in woods.

Carya cordiformis (Wang.) K. Koch. Bitternut Hickory. Common in woods.

Carya laciniata (Michx. f.) Loud. Big Shellbark Hickory. Union. In a woodlot.

Carya tomentosa (Poir.) Nutt. Mockernut. Scarce: 2. Chester, Jefferson. In woods.

Carya ovata (Mill.) K. Koch. Shagbark Hickory. Abundant in woods.

Carya ovalis (Wang.) Sarg. Pignut Hickory. Union, Chester, and Wilson. In woods. All specimens with at least one character of *C. glabra*.

Carya glabra (Mill.) Sweet. Pignut Hickory. Union. In a woodlot. This collection has buds like *C. ovalis*.

Corylaceae

- Corylus americana* Walt. Hazelnut. Frequent in poorly-drained woods, especially in ITP.
Ostrya virginiana (Mill.) K. Koch. Hop Hornbeam, Ironwood. Abundant in various types of woods.
Carpinus caroliniana Walt. Hornbeam, Blue Beech. Abundant in various types of woods.

Fagaceae

- Fagus grandifolia* Ehrh. Beech. Abundant, but mainly in the western half and southern part of county. Collections are of var. *caroliniana* (Loud.) Fern. and Rehder.
Quercus alba L. White Oak. Abundant in moist or dry woods.
Quercus stellata Wang. Post Oak. Rare: Wilson. In poorly-drained, oak-hickory woods.
Quercus macrocarpa Michx. Bur Oak. Frequent in moist or dry woods. Usually, only one or a few individuals present at a locality.
Quercus bicolor Willd. Swamp White Oak. Frequent in poorly-drained woods of the ITP, but only occasional elsewhere. One collection suggests introgression from *Q. macrocarpa*. [*Quercus Prinus* L.] Chestnut Oak. Reported in Transeau and Williams (1929).
Quercus prinoides Willd. var. *acuminata* (Michx.) Gleason (*Q. Muehlenbergii* Engelm.). Chestnut Oak. Common on dry hillsides, usually along larger streams.
Quercus imbricaria Michx. Shingle Oak. Common in woods.
Quercus marilandica Muenchh. Blackjack Oak. Rare: Vernon. Crest of wooded ridge.
Quercus velutina Lam. Black Oak. Collected in two woodlands in Wilson Twp. in poorly-drained soils.
Quercus borealis Michx. f. var. *maxima* (Marsh.) Ashe. Red Oak. Common, usually on slopes, ravines, or uneven topography in rather well-drained sites.
Quercus palustris Muenchh. Pin Oak. Abundant in ITP where it is often a dominant species. Infrequent elsewhere.
Quercus Shumardii Buckley.
 Var. *Shumardii*. Shumard Oak. Collected in upland woodlots in Chester and Union Twps.
 Var. *Schneckii* (Britt.) Sarg. Schneck Oak. Collected in upland woodlot in Chester Twp., where it grew with var. *Shumardii*. Another specimen from Union Twp. was intermediate between these two varieties.
 Note: Hybrid—x *Quercus Leana* Nutt. (*Q. imbricaria* x *Q. velutina*). Lea's Oak. This hybrid was collected in "Clinton Co." from "a little tree four inches in diameter" in 1906 by Stanley B. Stowe (OSU herb.).

Ulmaceae

- Ulmus americana* L. American or White Elm. Abundant in moist woods.
Ulmus rubra Muhl. Slippery Elm. Common in poorly-drained woods in ITP; frequent along streams elsewhere.
Celtis occidentalis L. Hackberry. Common in lowland woods.

Moraceae

- Maclura pomifera* (Raf.) Schneid. Osage-Orange. Common as scattered trees in woods; planted formerly as "living fences".
Morus rubra L. Red Mulberry. Frequent in woods.
Humulus Lupulus L. Hops. Wilson—in fence-row.
 * *Humulus japonicus* Sieb. & Zucc. Hops. Vernon—in bottomland.

Urticaceae

- Urtica dioica* L. var. *procera* Wedd. Tall Nettle. Infrequent in moist soil.
Laportea canadensis (L.) Gaud. Wood Nettle. Common in moist woods.
Boehmeria cylindrica (L.) Sw. False Nettle. Infrequent in moist soil.
Pilea pumila (L.) Gray. Clearweed. Common in moist woods.
Parietaria pennsylvanica Muhl. Pellitory. Abundant in open woods, gardens, and waste places.

Aristolochiaceae

- Asarum canadense* L. var. *canadense*. Wild Ginger. Scarce to infrequent in moist, rich woods, usually on ravine slopes.
Aristolochia Serpentaria L. Virginia Snakeroot. Scarce: 3. Richland, Wilson, Chester. In level, upland woods of various types.

Polygonaceae

- * *Rumex Acetosella* L. Sheep Sorrel. Abundant weed in fields.
Rumex verticillatus L. Swamp Dock. Rare: Liberty. Wet border of stream.
 * *Rumex crispus* L. Curly Dock. Abundant weed in waste places.
Rumex altissimus Wood. Pale Dock. Rare: Liberty. Wet border of stream.

- **Rumex obtusifolius* L. Bitter Dock. Abundant weed in waste places.
Polygonum erectum L. Liberty—along roadside.
 **Polygonum aviculare* L. Knotweed. Abundant weed in waste places.
Polygonum coccineum Muhl. Rare: Liberty. Wet border of stream.
Polygonum lapathifolium L. Rare: Washington. Mud flat on north shore of Lake Cowan.
 This collection represents var. *nodosum* (Raf.) Weinm. of B. & B.
Polygonum pennsylvanicum L. var. *laevigatum* Fern. Smartweed. Common in moist places.
Polygonum punctatum Ell. Smartweed. Abundant in moist places.
 **Polygonum Persicaria* L. Lady's Thumb. Frequent in moist places.
Polygonum hydropiperoides Michx. Mild Water Pepper. Scarce: 2. Liberty, Jefferson. Swampy lowland along large streams. Typical variety and form were collected.
Polygonum sagittatum L. Arrow-leaved Tearthumb. Rare: Vernon. Swamp in ITP.
Polygonum arifolium L. Halberd-leaved Tearthumb. Collected in 1936 by Roads.
Polygonum virginianum L. (*Tovara virginiana* (L.) Raf.). Jumpseed. Common in moist woods.
Polygonum scandens L. Climbing False Buckwheat. Frequent along roadsides and in waste places.

Chenopodiaceae

- **Chenopodium ambrosioides* L. Mexican Tea. Frequent weed in waste places.
 **Chenopodium album* L. Lamb's Quarters. Common weed in waste places.

Amaranthaceae

- Amaranthus graecizans* L. (*A. blitoides* S. Wats.). Vernon. In sandy soil along stream.
Amaranthus albus L. (*A. graecizans*, of G. M., 7th ed., and B. & B., 2nd ed.). Union. Along a railroad.
 **Amaranthus hybridus* L. Pigweed. Abundant weed in corn fields, gardens, and waste places.
Acnida tuberculata Moq. (*A. altissima* Riddell, of B. & B.). Rare: Wilson. In moist soil along Anderson's Fork in land probably originally prairie or marsh.
 Note: A specimen obtained by J. S. Vandervort (O.S.U. herb.) in 1894 near New Antioch has been determined by J. D. Sauer as a sterile hybrid, probably of *Acnida tuberculata* x *Amaranthus hybridus*.

Nyctaginaceae

- Oxybaphus nyctagineus* (Michx.) Sw. Umbrella-wort. Scarce: near New Vienna (KMR); Union—south of Wilmington; along railroads.

Phytolaccaceae

- Phytolacca americana* L. Pokeweed. Common in open woods and waste places.

Aizoaceae

- **Mollugo verticillata* L. Carpet-weed. Common in corn fields and waste places.

Portulacaceae

- **Portulaca oleracea* L. Purslane. Infrequent to frequent in corn fields, gardens, and waste places.
Claytonia virginica L. Spring Beauty. Abundant in moist woods.

Caryophyllaceae

- Paronychia canadensis* (L.) Wood. Forked Chickweed. Infrequent in dry woods.
 **Stellaria media* (L.) Cyrill. Common Chickweed. Abundant weed in fields and waste places.
Stellaria longifolia Muhl. Infrequent: swampy places and moist woods in ITP.
Cerastium nutans Raf. (*C. longipedunculatum*, of authors). Infrequent in woods.
 **Cerastium vulgatum* L. var. *hirsutum* Fries. Mouse-ear Chickweed. Abundant weed in fields and waste places.
 **Arenaria serpyllifolia* L. Thyme-leaved Sandwort. Infrequent in sandy places along streams and railroads.
Arenaria lateriflora L. Rare: Vernon. In upland woods under beech and red oak.
 **Agrostemma Githago* L. Corn Cockle. Occasional weed in pastures and cultivated fields.
Silene antirrhina L. Sleepy Catchfly. Frequent along railroads.
 **Silene noctiflora* L. Night-flowering Catchfly. Rare: Union. Border of cultivated field.
Silene stellata (L.) Ait. f. Starry Campion. Infrequent in dry or moist woods. The two collections are intermediate between var. *stellata* and var. *scabrella* (Nieuw.) Palm. & Stey.
Silene virginica L. Fire Pink. Frequent on dry, wooded hillsides.
 **Saponaria officinalis* L. Bouncing Bet. Abundant along railroads and in waste places.
 **Dianthus Armeria* L. Deptford Pink. Frequent in fields and open woods.

Nymphaeaceae

Nelumbo lutea (Willd.) Pers. Lotus. Rare: Washington. North shore of Lake Cowan.

Magnoliaceae

Magnolia acuminata L. Cucumber Tree. Scarce: 2. Chester—in a field adjoining a woods. Reported from Union by F. O. Hazard. This species appears to be dying out.
Liriodendron Tulipifera L. Tulip Tree, Tulip Poplar. Frequent in moist woods and wooded ravines.

Anonaceae

Asimina triloba (L.) Dunal. Papaw. Common in moist woods.

Ranunculaceae

Hydrastis canadensis L. Golden Seal. Scarce: 3. Chester, Vernon, Richland. Moist, rich woods: beech-maple; mixed hardwoods; elm-ash.
Cimicifuga racemosa (L.) Nutt. Black Snakeroot. Rare: Vernon. Wooded ravine.
Actaea alba (L.) Mill. White Baneberry. Frequent in moist, rich woods.
Thalictrum dioicum L. Early Meadow Rue. Infrequent on dry, wooded hillsides.
Thalictrum dasycarpum Fisch. & Ave-Lall. Purple Meadow Rue. Frequent in bottomlands and moist places.
Aquilegia canadensis L. Columbine. Frequent on rocky ledges and dry hillsides.
Delphinium tricornis Michx. Dwarf Larkspur. Common in moist woods.
Isopyrum biternatum (Raf.) T. & G. False Rue Anemone. Rare: Adams. Moist, rich, wooded hillside in valley of Todd's Fork.
Callitha palustris L. Marsh Marigold. Rare: Adams. Seepage area around spring at base of "Bunker Hill". (First found by FOH).
Ranunculus ambiguus Wats. (*R. obtusiusculus* Raf.). Spearwort. Rare: Marion. Border of temporary pool in ITP.
Ranunculus abortivus L. Small-flowered Buttercup. Common in various types of moist woodlands.
Ranunculus micranthus Nutt. Scarce: 2. Adams, Vernon. Moist, wooded hillsides.
Ranunculus sceleratus L. Cursed Crowfoot. Scarce: Washington, Vernon. Mud flat on north shore of Lake Cowan; sandbar along lower Cowan's Creek.
Ranunculus recurvatus Poir. Hooked Buttercup. Infrequent in moist woods.
Ranunculus septentrionalis Poir. Swamp Buttercup. Frequent in wet or moist places, usually in woods. Separation of this species from *R. hispidus* was made on the basis of the stipule character mentioned by Benson (1948).
Ranunculus hispidus Michx. Bristly Buttercup. Collected by Braun in wet place near Midland in ITP. The specimen is probably var. *hispidus*.
Anemone virginiana L. Thimbleweed. Frequent in dry woods.
Anemone canadensis L. Canada Anemone. Scarce: 2. Liberty, Richland. Moist or wet ditches along roadside and railroad.
[*Anemone quinquefolia* L. var. *interior* Fern.] Wood Anemone. Klock's Crossing, Jefferson Twp. (Braun).
Hepatica acutiloba DC. Hepatica. Frequent in wooded ravines in western half of county.
Anemonella thalictroides (L.) Spach. Rue Anemone. Frequent in well-drained soil in rich woods or dry woods.
Clematis virginiana L. Virgin's Bower. Infrequent in wooded or cleared bottomland.
Clematis Viorna L. Leather Flower. Scarce: 3. Vernon, Liberty, Chester. Dry, wooded hillsides.

Berberidaceae

Podophyllum peltatum L. May Apple. Common in moist woods.
Jeffersonia diphylla (L.) Pers. Twinleaf. Frequent on wooded hillsides; not seen in eastern part of county.
Caulophyllum thalictroides (L.) Michx. Blue Cohosh. Frequent in moist, rich woods.

Menispermaceae

Menispermum canadense L. Moonseed. Common in thickets and woods.

Lauraceae

Sassafras albidum (Nutt.) Nees. Sassafras. Common in woods.
Lindera Benzoin (L.) Blume. Spicebush. Common in wet places in woods.

Papaveraceae

- Sanguinaria canadensis* L. Bloodroot. Abundant in moist woods.
 **Papaver Rhoeas* L. Field Poppy. Collected by KMR in 1937 along a roadside.

Fumariaceae

- Dicentra Cucullaria* (L.) Bernh. Dutchman's Breeches. Frequent in moist, rich woods and in bottomlands.
Dicentra canadensis (Goldie) Walp. Squirrel-corn. Scarce: 2. "Cowan's Creek" (RR); Washington—north of Lake Cowan in moist, rich woods.
Corydalis flavula (Raf.) DC. Pale Corydalis. Frequent in moist woods.

Cruciferae

- **Brassica Kaber* (DC.) L. C. Wheeler. Charlock. Union—weed in garden.
 **Brassica nigra* (L.) Koch. Black Mustard. Occasional on dumps and in waste places.
 **Erucastrum gallicum* (Willd.) O. E. Schulz. Rare: Liberty. Gravel bar along Anderson's Fork.
 **Conringia orientalis* (L.) Andr. Hare's-ear Mustard. Rare: along railroad near New Vienna (KMR).
 **Lepidium campestre* (L.) R. Br. Field Peppergrass. Frequent in fields and waste places.
Lepidium virginicum L. Peppergrass. Frequent in waste places and fields.
 **Lepidium densiflorum* Schrader. Rare: Adams. Roadside.
 **Thlaspi arvense* L. Field Pennycress. Rare: Green. Snow Hill golf course.
 **Thlaspi perfoliatum* L. Scarce: 3. Vernon, Jefferson. In cinders along railroads.
 **Capsella Bursa-pastoris* (L.) Medic. Shepherd's Purse. Abundant weed in waste places.
 **Alyssum Alyssoides* L. Rare: along railroad in New Vienna (KMR).
 **Draba verna* L. Whitlow-grass. Frequent in fields, along railroads, and in waste places. Usually very abundant where found.
Cardamine bulbosa (Schreb.) BSP. Bulbous Bitter-cress. Common in wet places.
Cardamine Douglasii (Torr.) Britt. Purple Bitter-cress. Abundant in moist or dry woods of various types.
Cardamine pennsylvanica Muhl. Infrequent in wet places.
Dentaria laciniata Muhl. Cut-leaved Toothwort. Abundant in moist woods of various types.
Dentaria heterophylla Nutt. Rare: Vernon. Moist, rich, wooded ravine, under beech and other hardwoods.
Arabis hirsuta (L.) Scop. var. *adpressipilis* (Hopkins) Rollins. Rare: Liberty. On limestone cliffs.
Arabis canadensis L. Sickie Pod. Scarce: Liberty, Vernon. Moist or dry open woods.
Arabis laevigata (Muhl.) Poir. Smooth Rockcress. Frequent in moist woods, often around rocks.
Arabis Shortii (Fern.) Gleason. (*A. dentata* (Torr.) T. & G.). Rare: Chester. Wooded hillside along Caesar's Creek.
 **Nasturtium officinale* R. Br. Water Cress. Infrequent in wet places.
 **Rorippa sylvestris* (L.) Besser. Creeping Yellow-cress. Locally common in Wilson and Liberty Twps. in pastures and wet places in valley of Anderson's Fork.
Rorippa islandica (Oeder) Borbas var. *Fernaldiana* Butters & Abbe (var. *microcarpa* (Regel) Fern.). Infrequent in ditches and wet places.
 **Barbarea vulgaris* R. Br. Yellow Mustard. Abundant in fields and waste places.
 **Barbarea verna* (Mill.) Asch. Early Winter Cress. Scarce: 3. Vernon, Jefferson. Along railroads.
Iodanthus pinnatifidus (Michx.) Steud. Purple Rocket. Frequent in bottomland woods.
 **Erysimum cheiranthoides* L. Rare: along railroad near New Vienna (KMR).
 **Alharia officinalis* Andr. Garlic Mustard. Locally abundant in valley of Todd's Fork from near Wilmington to Clarksville; also at Sugar Grove Cemetery, Wilmington.
 **Sisymbrium officinale* (L.) Scop. Hedge Mustard. Frequent in barnyards and waste places.
 **Sisymbrium altissimum* L. Tumble Mustard. Scarce: 2. Richland, Adams. Along railroad and roadside.
 **Arabidopsis Thaliana* (L.) Heynh. Mouse-ear Cress. Scarce: 2. Vernon—in field. Wilmington (DLJ).
 **Camelina microcarpa* Andr. Scarce: 2. Union; near New Vienna (KMR). Along railroads.
Descurainia pinnata (Walt.) Britt. var. *brachycarpa* (Richardson) Fern. Scarce: 2. Green; Adams. Roadside; along railroad.

Capparidaceae

- Polanisia graveolens* Raf. Clammyweed. Infrequent in cinders along railroads.

Crassulaceae

- Penthorum sedoides* L. Ditch Stonecrop. Frequent along streams and in other wet places.
Sedum ternatum Michx. Stonecrop. Infrequent in moist woods.

Saxifragaceae

- Heuchera americana* L. var. *brevipetala* R. B. & L. Alum-root. Frequent on rocky hillsides and in woods.
Hydrangea arborescens L. Wild Hydrangea. Frequent at base of wooded hillsides in north-western half of county.
Ribes Cynosbati L. Wild Gooseberry. Frequent in moist woods.
Ribes americanum Mill. Wild Black Currant. Rare: Liberty. Moist bank of stream.

Hamamelidaceae

- Liquidambar Styraciflua* L. Sweet Gum. Rare: Jefferson. In poorly-drained woods in ITP with pin oak and other hardwoods. Only three young trees present at this locality.

Platanaceae

- Platanus occidentalis* L. Sycamore. Abundant along streams and on hillsides.

Rosaceae

- Physocarpus opulifolius* (L.) Maxim var. *opulifolius*. Ninebark. Rare: Richland. In elm-ash-red maple-silver maple forest.
Spiraea alba DuRoi. Meadow-sweet. Frequent in swampy clearings and open woods of the ITP. Also, near New Antioch (JSV).
Spiraea tomentosa L. Hardhack. Scarce in swampy clearings and open woods of the ITP.
Gillenia stipulata (Muhl.) Trel. Indian Physic. Rare: near Wilmington in 1876 by J. F. James.
Fragaria virginiana Duchesne. Wild Strawberry. Frequent in waste places.
Potentilla simplex Michx. Common Cinquefoil. Infrequent in fields.
 **Potentilla norvegica* L. (*P. monspeliensis* L.). Norway Cinquefoil. Infrequent in waste places.
 **Potentilla recta* L. Upright Cinquefoil. Frequent in waste places.
Geum vernum (Raf.) T. & G. Spring Avens. Common in moist woods.
Geum canadense Jacq. White Avens. Common in woods.
Geum virginianum L. (*G. flavum* (Porter) Bickn.). Rare: Chester. Moist woods.
Geum laciniatum Murr. Infrequent in north and east in wet places along streams. Two collections are of var. *trichocarpum* Fern., one of var. *laciniatum*. At one locality both varieties were present.
Rubus hispidus L. Swamp Dewberry. Scarce: Jefferson. Swampy clearings in ITP.
Rubus allegheniensis Porter (sensu B. & B.). Common Blackberry. Common in fields and thickets.
Rubus occidentalis L. Black Raspberry. Frequent in woods and thickets.
Agrimonia gryposepala Wallr. Chester—wooded hillside.
Agrimonia rostellata Wallr. Woodland Agrimony. Vernon—on dry hillside under oaks.
Agrimonia parviflora Ait. Small-flowered Agrimony. Frequent in swampy clearings and woods, especially in flats of ITP.
Agrimonia pubescens Wallr. Frequent in moist woods.
Rosa setigera Michx. Prairie Rose. Union—wooded hillside; Liberty—swampy area.
 **Rosa Eglanteria* L. (*R. rubiginosa* L.). Sweetbrier Rose. Rare: Union. In field.
Rosa palustris Marsh. Swamp Rose. Chester, Jefferson. In wet places. Probably, infrequent to frequent.
Rosa carolina L. Pasture Rose. Vernon. On dry hillside.
Prunus serotina Ehrh. Wild Black Cherry. Abundant in woods and thickets.
Prunus virginiana L. Choke Cherry. Rare: Liberty. Top of limestone cliff.
Prunus americana Marsh. Wild Plum. Scarce: 3. Wilson, Marion, Vernon. Roadsides and fence-rows.
Prunus hortulana Bailey. Wild Plum. Rare: Marion. In woods with mixed hardwoods. Identification tentative.
Pyrus coronaria L. Wild Crab Apple. Rare: Jefferson. Border of poorly-drained woodland in ITP.
Pyrus ioensis (Wood) Carruth. Wild Crab Apple. Rare: Wilson. Poorly-drained, level, oak-hickory woods.
Pyrus melanocarpa (Michx.) Willd. Black Chokeberry. Scarce in wet places in ITP.
Crataegus Phaenopyrum (L. f.) Medic. Washington Thorn. Scarce: 2. Chester. In thin woods. It is not known whether this is native or planted.
Crataegus crus-galli L. Cockspur Thorn. Frequent in woods and marginal land.
Crataegus punctata Jacq. Dotted Hawthorn. Frequent along streams and on wooded hillsides. One collection represents var. *aurea* Ait.
Crataegus macrosperma Ashe. Vernon. Dry, rocky, wooded hillside. Both the typical variety and var. *roanensis* (Ashe) Palmer were obtained at this locality.
Crataegus pennsylvanica Ashe. Chester. In moist woods.
Crataegus mollis (T. & G.) Scheele. Richland. In moist woods.

Crataegus Calpodendron (Ehrh.) Medic. Richland—in moist woods; Jefferson (Braun herb.).
Amelanchier arborea (Michx. f.) Fern. Shadbush. Infrequent: Vernon, Union, Liberty. On wooded slopes and banks along streams. (First found by FOH).

Caesalpiniaceae

Cercis canadensis L. Redbud. Common in woods.
Gleditsia triacanthos L. Honey Locust. Common in woods.
Gymnocladus dioica (L.) K. Koch.] Kentucky Coffee-tree. Reported by Dr. Kelley Hale from ravine at Bunker Hill, Adams Twp.
Cassia hebecarpa Fern. (*C. marylandica* of auth.). Wild Senna. Frequent in moist places.

Fabaceae

Baptisia leucantha T. & G. White False Indigo. Rare: near Cuba at edge of woods in 1937 (KMR).
 **Trifolium pratense* L. Red Clover. Frequent escape from cultivation.
 **Trifolium repens* L. White Clover. Abundant in lawns and waste places.
 **Trifolium hybridum* L. Alsike Clover. Common in waste places and fields.
Trifolium stoloniferum Muhl. Buffalo Clover. Rare: near Wilmington in 1876 (D. L. James).
 **Trifolium dubium* Sibth. Little Hop Clover. Rare: Union. In field.
 **Melilotus alba* Desr. White Sweet Clover. Common along roadsides and in waste places.
 **Melilotus officinalis* (L.) Lam. Yellow Sweet Clover. Common in same habitats as preceding species.
 **Medicago lupulina* L. Black Medick. Common in lawns, pastures, and waste places.
 **Medicago sativa* L. Alfalfa. Occasional along roadsides and waste places.
Psoralea Onobrychis Nutt. Rare: near New Antioch in 1892 (JSV).
Robinia Pseudo-acacia L. Black Locust. Common in thickets and woodland borders.
Desmodium nudiflorum (L.) DC. Scarce: near New Antioch (JSV); Vernon: dry hillside; moist woods.
Desmodium glutinosum (Muhl.) Wood. Near Antioch in 1892 (JSV). Probably occurs elsewhere.
Desmodium pauciflorum (Nutt.) DC. Wilson (W. C. herb.).
Desmodium rotundifolium DC. Prostrate Tick-trefoil. Rare: Vernon. Dry, wooded ridge.
Desmodium canescens (L.) DC. Chester. Bottomland field.
Desmodium rigidum (Ell.) DC. Rare: Liberty. Dry thicket.
Desmodium paniculatum (L.) DC. Panicked Tick-trefoil. Frequent in woods and waste places.
Desmodium Dillenii Darl. Vernon (WC herb.). Other specimens are immature and identification uncertain. Probably elsewhere in county.
Desmodium cuspidatum (Muhl.) Loud. var. *cuspidatum* (*D. bracteosum* (Michx.) DC.). Vernon—wooded bottomland.
Lespedeza procumbens Michx. Trailing Bush Clover. Rare: Vernon. Dry, wooded ridge.
Lespedeza violacea (L.) Pers. Violet Bush Clover. Infrequent in dry woods.
Lespedeza virginica (L.) Britt. Virginia Bush Clover. Rare: Liberty. Dry opening, over limestone.
Lespedeza intermedia (Wats.) Britt. Rare: Vernon. Dry, wooded ridge.
 **Lespedeza striata* (Thunb.) H. & A. Japanese Bush Clover. Rare: near New Vienna in 1938 along railroad (KMR).
 **Vicia villosa* Roth. Hairy Vetch. Occasional along roadsides.
Apios americana Medic. Groundnut. Infrequent along streams and in wet places.
Amphicarpa bracteata (L.) Fern. Hog Peanut. Common in woods. Collections are variously intermediate between var. *bracteata* and var. *comosa* (L.) Fern.
Strophostyles helveola (L.) Ell. Scarce: 2. Jefferson. Along railroads in ITP.

Oxalidaceae

Oxalis europaea Jord. var. *europaea*. Yellow Wood Sorrel. Abundant in fields, woods, and waste places. The number of collections of certain forms follows: forma *cymosa* (Small) Wieg.—1; f. *europaea*—2; f. *villicaulis* Wieg.—2.
Oxalis grandis Small. Great Yellow Wood Sorrel. Scarce: 3. Chester, Vernon. Dry woods.
Oxalis violacea L. Violet Wood Sorrel. Frequent in rich woods. Collections include both typical variety and var. *trichophora* Fassett.

Geraniaceae

Geranium maculatum L. Wild Geranium. Common in woods.
Geranium carolinianum L. var. *confertiflorum* Fern. Scarce in waste places.

Linaceae

Linum striatum Walt. Scarce: 2. Jefferson. Poorly-drained meadows and woods in ITP.

Rutaceae

- Zanthoxylum americanum* Mill. Prickly Ash. Frequent in moist or dry woods.
Ptelea trifoliata L. Hop Tree. Scarce in woods.

Simarubaceae

- **Ailanthus altissima* (Mill.) Swingle. Tree-of-heaven. Occasional in waste places.

Polygalaceae

- Polygala sanguinea* L. Field Milkwort. Scarce: 3. Jefferson. In poorly-drained fields in ITP.

Euphorbiaceae

- Phyllanthus caroliniensis* Walt. Scarce: 2. Marion, Jefferson. In fallow fields and swampy clearings in ITP.
Acalypha rhomboidea Raf. Three-seeded Mercury. Frequent in waste places.
Acalypha virginica L. Jefferson. In pasture.
Euphorbia maculata L. (*E. Presli* Guss.). (cf. Fosberg, 1953). Spotted Spurge. Abundant in cultivated fields, gardens, and waste places.
Euphorbia supina Raf. (*E. maculata* L. of B. & B.). (cf. Fosberg, 1953). Frequent weed in fields, city streets, and waste places.
Euphorbia corollata L. Flowering Spurge. Rare: Vernon. Dry, wooded hillside.
Euphorbia dentata Michx. Scarce weed along railroads.
 **Euphorbia Cyparissias* L. Cypress Spurge. Scarce: 2. Green (CPI); Union (HHV). Spreading in cemeteries.

Limnanthaceae

- Floerkea proserpinacoides* Willd. False Mermaid. Infrequent: 5. Wilson, Richland, Union. In moist woods.

Anacardiaceae

- Rhus radicans* L. Poison Ivy. Abundant in woods and all kinds of waste places. One woodland collection is var. *vulgaris* (Michx.) DC. forma *Negundo* (Greene) Fern.
Rhus glabra L. Smooth Sumac. Frequent in waste land.

Aquifoliaceae

- Ilex verticillata* (L.) Gray. Winterberry. Infrequent: Jefferson, Marion. Roadsides and open woods in flats of ITP. Collections are of var. *padifolia* (Willd.) T. & G.

Celastraceae

- Celastrus scandens* L. Bittersweet. Common in woods, thickets, and along roadsides.
Euonymus atropurpureus Jacq. Wahoo. Frequent in woods, often bottomland.
Euonymus obovatus Nutt. Running Strawberry-bush. Infrequent: 5. Richland, Jefferson, Chester, Vernon, Green. In moist woods.

Staphyleaceae

- Staphylea trifolia* L. Bladdernut. Scarce in woods.

Aceraceae

- Acer saccharum* Marsh. (cf. Desmarais, 1952).
 Subsp. *saccharum*. Sugar Maple. Abundant in woods; often a dominant species.
 Subsp. *nigrum* (Michx. f.) Desmarais. Black Maple. Infrequent in moist woods and bottomlands; in more mesic habitats than Sugar Maple. Many trees are intermediate and suggest hybridization between the subspecies.
Acer rubrum L. var. *rubrum*. Red Maple. Frequent in poorly-drained woods.
Acer saccharinum L. Silver Maple. Infrequent along streams and in poorly-drained woods.
Acer Negundo L. Box-Elder. Abundant in bottomlands and in poorly-drained woods. The single collection is of var. *Negundo*.

Hippocastanaceae

- Aesculus glabra* Willd. var. *glabra*. Ohio Buckeye. Frequent in moist woods. Not seen in eastern part of county.

Balsaminaceae

- Impatiens biflora* Walt. Spotted Touch-me-not, Jewelweed. Common in bottomlands and moist woods.
Impatiens pallida Nutt. Pale Touch-me-not, Pale Jewelweed. Infrequent in bottomlands and moist woods.

Vitaceae

- Vitis Labrusca* L. Fox Grape. Infrequent in ITP in moist woods and along roadsides.
Vitis aestivalis Michx. Summer Grape. Infrequent: dry, wooded hillsides; moist, poorly-drained woods.
Vitis vulpina L. (*V. cordifolia* Michx.). Frost Grape. Frequent in woods and thickets, especially along streams. Intermediates with *V. riparia* are more abundant than plants of *V. vulpina*, but most intermediates are nearer *V. vulpina* in morphology than to *V. riparia*.
Vitis riparia Michx. Frost Grape. Collected in Liberty Twp. in swampy land along Anderson's Fork. See preceding species.
Parthenocissus quinquefolia (L.) Planch. Virginia Creeper. Abundant in woods.

Tiliaceae

- Tilia americana* L. Basswood. Common in moist woods, but rarely present in much abundance.

Malvaceae

- **Malva neglecta* Wallr. Common Mallow. Common weed in waste places.
 **Sida spinosa* L. Common weed in waste places.
 **Abutilon Theophrasti* Medic. Buttonweed, Velvet Leaf. Abundant weed in cultivated land.
 **Hibiscus Trionum* L. Flower-of-an-hour. Common weed in gardens and cultivated land.

Hypericaceae

- Hypericum prolificum* L. Shrubby St. John's-wort. Infrequent in moist or wet places.
Hypericum sphaerocarpum Michx. Scarce: 2. Liberty, Wilson. Stream bank; roadside. In land which was formerly prairie or marsh.
 **Hypericum perforatum* L. Common St. John's-wort. Common in fields and waste places.
Hypericum punctatum Lam. Spotted St. John's-wort. Common in fields and waste places.
Hypericum mutilum L. Scarce: Jefferson. Moist fields. Perhaps not uncommon in ITP.
Hypericum Drummondii (Grev. & Hook.) T. & G. Scarce: 2. Jefferson. Moist fields in ITP.

Violaceae

- Viola papilionacea* Pursh. Common Blue Violet. Abundant in woods and waste places.
Viola sororia Willd. Hairy Blue Violet. Common in woods.
Viola cucullata Ait. Marsh Blue Violet. Infrequent in wet places in ITP.
Viola triloba Schwein. Scarce: 3. Chester, Union. Moist woods.
Viola pallens (Banks) Brain. Rare: near Westboro in "wet moss, pin oak swamp forest" in 1930 (Braun).
 [*Viola lanceolata* L.] Lance-leaved Violet. Meadow at Klock's Crossing, Jefferson Twp. (reported by Braun).
Viola eriocarpa Schw. (*V. pennsylvanica* Michx.). Smooth Yellow Violet. Common in moist, rich woods. Plants nearest this species but with certain characters of *V. pubescens* Ait. are of frequent occurrence.
Viola striata Ait. Cream Violet. Frequent in bottomlands.
 **Viola Rafinesquii* Greene. Field Pansy. Rare: vacant lot in Wilmington in 1938 (RR).
 Note: Hybrid—[*V. hirsutula* Brain. x *V. papilionacea* Pursh] Wet meadows, Blanchester, 4-22-1913. (Braun herb.; det. by Ezra Brainerd).
Cubelium concolor (Forst.) Raf. Green Violet. Rare: Vernon. Wooded hillside.

Thymeleaceae

- Dirca palustris* L. Leatherwood. Infrequent in moist or dry woods.

Lythraceae

- Cuphea petiolata* (L.) Koehne. Blue Waxweed. Frequent in open woods and fields.
Lythrum alatum Pursh. Winged Loosestrife. Scarce in eastern part of county in moist places along railroads.

Melastomaceae

- [*Rhexia virginica* L.] Meadow Beauty. Meadow, Klock's Crossing, Jefferson Twp. (Braun).

Onagraceae

- Ludwigia palustris* (L.) Ell. Water Purslane. Frequent in wet places.
Ludwigia alternifolia L. Seedbox. Infrequent in wet places in ITP.
Epilobium coloratum Biehler. Willow-herb. Frequent in wet places.
Oenothera biennis L. Evening-Primrose. Common in waste places.

Oenothera parviflora L. Evening-Primrose. Rare: Jefferson. Moist field in ITP.
Oenothera laciniata Hill var. *laciniata*. Rare: near New Vienna in 1935, along railroad (KMR).
Oenothera fruticosa L. Sundrops. Rare: near Midland in 1923 (ELB).
Gaura biennis L. Frequent in moist, open places, usually along streams.
Circaea quadrifolcata (Maxim.) Franch. & Sav. var. *canadensis* (L.) Hara. (*C. latifolia* Hill).
 Enchanter's Nightshade. Frequent in moist, rich woods.

Araliaceae

Aralia racemosa L. Spikenard. Infrequent in moist, rich woods.
Panax quinquefolium L. Ginseng. Scarce: 3. Chester, Wilson. In moist, rich woods. Almost exterminated.

Umbelliferae

Sanicula gregaria Bickn. Sanicle. Infrequent in woods.
Sanicula canadensis L. Sanicle. Frequent in woods.
Sanicula trifoliata Bickn. Sanicle. Scarce in woods.
Erigenia bulbosa (Michx.) Nutt. Harbinger-of-Spring. Frequent in moist, rich, well-drained woods.
Cryptotaenia canadensis (L.) DC. Honewort. Frequent in woods.
 **Torilis japonica* (Houtt.) DC. (*T. Anthriscus* (L.) Gmel.). Rare: near New Vienna along railroad in 1939 (KMR).
Osmorrhiza Claytoni (Michx.) Clarke. Sweet Cicely. Scarce to infrequent in moist woods.
Osmorrhiza longistylis (Torr.) DC. Long-styled Sweet Cicely. Frequent in moist woods.
 **Daucus Carota* L. Wild Carrot, Queen Anne's Lace. Abundant along roadsides, in fields, and waste places.
Chaerophyllum procumbens (L.) Crantz. Chervil. Frequent in moist places.
Taenidia integerrima (L.) Drude. Infrequent in western and northern parts, on dry, wooded hillsides.
Zizia aurea (L.) Koch. Golden Alexanders. Near Antioch (JSV).
Zizia aptera (Gray) Fern. Vernon. On wooded hillside.
 **Conium maculatum* L. Poison Hemlock. Scarce: 2. Union, Vernon. Roadside; railroad.
Cicuta maculata L. Water Hemlock. Frequent in swampy places, mainly in ITP.
Thaspium trifoliatum (L.) Gray. Meadow Parsnip. Chester, Vernon. On wooded slopes.
Thaspium barbinode (Michx.) Nutt. Hairy-jointed Meadow Parsnip. Union. Border of woods.
Oxypolis rigidior (L.) Raf. Cowbane. Scarce in wet places in woods and in open in ITP.
 **Pastinaca sativa* L. Wild Parsnip. Abundant along roadsides, in fields, and waste places.

Cornaceae

Cornus florida L. Flowering Dogwood. Common in woods.
Cornus Purpusi Koehne. Collected in Liberty Twp. along Anderson's Fork. Six other generally-distributed collections are variously intermediate between this species and *C. Amomum* Mill.
Cornus Drummondii C. A. Mey. Rough-leaved Dogwood. Rare: Vernon. Bottomland woods.
Cornus racemosa Lam. Gray Dogwood. Frequent in ITP in wet places; not seen elsewhere.
Nyssa sylvatica Marsh. var. *caroliniana* (Poir.) Fern. Sour Gum, Black Gum, Tupelo. Frequent in moist woods; mainly in ITP.

Ericaceae

Monotropa uniflora L. Indian Pipe. Occasional in moist, rich woods.
 [*Vaccinium stamineum* L.] Deerberry. Woods near Westboro, Jefferson Twp. (Braun).
Vaccinium vacillans Torr. Low Blueberry. Rare: pin oak forest near Westboro in 1924 (Braun).
 Determined in 1939 by W. H. Camp as *V. Torreyanum* Camp.

Primulaceae

Samolus floribundus HBK. Water Pimpernel. Frequent in wet places.
 **Lysimachia Nummularia* L. Moneywort. Frequent in fields and along streams.
Steironema ciliatum (L.) Raf. Fringed Loosestrife. Frequent in wet places.
Steironema lanceolatum (Walt.) Gray. Frequent in moist fields and wet places. Two collections intergrade with *S. hybridum* (Michx.) Raf.

Oleaceae

Fraxinus americana L. White Ash. Abundant in moist woods.
Fraxinus biltmoreana Beadle. Biltmore Ash. Union—in field on upland; Vernon—bottomland woods.
Fraxinus pennsylvanica Marsh. Red Ash. Liberty—swampy area along Anderson's Fork.
 Glabrous form: Union—bottomland pasture.
Fraxinus quadrangulata Michx. Blue Ash. Frequent on wooded slopes.
Fraxinus nigra Marsh. Black Ash. Rare: Chester. Moist, level woods.

Gentianaceae

- Sabatia angularis* (L.) Pursh. Sabatia. Scarce: 3. Green, Vernon, Jefferson. Moist places and abandoned fields.
 [*Gentiana Saponaria* L.] Soapwort Genitan. Wet upland meadows near Midland, 9-14-1921 (Braun herb.).
Swertia carolinensis (Walt.) Kuntze. American Columbo. Rare: Vernon. Dry wooded slope.

Apocynaceae

- **Vinca minor* L. Periwinkle. Scarce in waste places.
Apocynum cannabinum L. Indian Hemp. Frequent in open woods and fields.

Asclepiadaceae

- Asclepias tuberosa* L. Butterfly Weed. Scarce: Chester, Green. Abandoned fields and roadsides. Collections are intermediate between subsp. *tuberosa* and subsp. *interior* Woodson.
Asclepias incarnata L. var. *incarnata*. Swamp Milkweed. Common along streams and in wet places.
Asclepias syriaca L. Common Milkweed. Abundant in fields and waste places.
Asclepias quadrifolia Jacq. Four-leaved Milkweed. Scarce: 2. Vernon. Moist woods.
Ampelamus albidus (Nutt.) Britt. Bluevine. Frequent: climbing on fences; garden weed in Wilmington.

Convolvulaceae

- **Ipomoea purpurea* (L.) Roth. Common Morning Glory. Occasional as weed in gardens and cultivated fields.
 **Ipomoea hederacea* Jacq. Ivy-leaved Morning Glory. Frequent in fields and waste places.
Ipomoea pandurata (L.) G. F. W. Mey. Wild Potato Vine. Rare: Vernon. Dry hillside.
Ipomoea lacunosa L. Rare: near New Vienna along railroad in 1937 (KMR).
 **Convolvulus arvensis* L. Field Bindweed. Richland. In cinders along railroad.
Convolvulus sepium L. Hedge Bindweed. Common in fields and waste places. Collections include both var. *sepium* and var. *communis* Tryon.
Cuscuta Gronovii Willd. Common Dodder. Frequent in wet places, usually along streams.

Polemoniaceae

- Phlox divaricata* L. var. *divaricata*. Wild Blue Phlox. Common in moist woods. Plants with white flowers seen at two localities.
Phlox paniculata L. Garden Phlox. Frequent in wooded bottomlands.
Phlox maculata L. Spotted Phlox. Scarce: Jefferson, Vernon. Swampy places in ITP.
Polemonium reptans L. Jacob's Ladder, Greek Valerian. Common in moist woods.

Hydrophyllaceae

- Phacelia Purshii* Buckley. Miami Mist. Infrequent in bottomlands, on wooded hillsides, and along roadsides; seen only in western part.
Hydrophyllum macrophyllum Nutt. Large-leaved Waterleaf. Abundant in moist woods.
Hydrophyllum virginianum L. Virginia Waterleaf. Rare: Richland. Elm-ash woods.
Hydrophyllum canadense L. Canada Waterleaf. Infrequent in moist, rich woods, usually at bases of hillsides, in western half of county.
Hydrophyllum appendiculatum Michx. Appendaged Waterleaf. Scarce in moist, rich woods.

Boraginaceae

- **Echium vulgare* L. Viper's Bugloss, Blueweed. Rare: near New Antioch in 1892 (JSV).
 **Lithospermum arvense* L. Corn Gromwell. Infrequent along roadsides and railroads.
Myosotis macrosperma Engelm. (*M. virginica* (L.) BSP. var. *macrosperma* (Engelm.) Fern.) Infrequent in moist woods.
 **Cynoglossum officinale* L. Hound's Tongue. Scarce: Liberty, Vernon. Waste places.
Cynoglossum virginianum L. Wild Comfrey. Scarce: 2. Marion, Vernon. Dry woods.
Hackelia virginiana (L.) Johnston. (*Lappula virginiana* (L.) Greene). Stickseed. Frequent in woods.
Mertensia virginica (L.) Pers. Virginia Bluebells. Rare: Union. Moist, rich woods.

Verbenaceae

- Verbena urticifolia* L. White Vervain. Common in open woods and along streams. Both var. *urticifolia* and var. *leiocarpa* Perry & Fern. have been collected.
Verbena hastata L. Blue Vervain. Common in open woods and along streams.
Phyla lanceolata (Michx.) Greene. Fog-fruit. Frequent in bottomland along streams.

Labiatae

- Teucrium canadense* L. American Germander. Frequent in open woods and fields. Two collections are of var. *virginicum* (L.) Eaton; one collection is intermediate between this and var. *occidentale* (Gray) McClintock & Epling.
- Isoetes brachiatus* (L.) BSP. False Pennyroyal. Infrequent in fields, open woods, and along railroads.
- Scutellaria ovata* Hill var. *versicolor* (Nutt.) Fern. Skullcap. Rare: Chester; Moist, rich woods along stream.
- Scutellaria incana* Biehler var. *incana*. Skullcap. Infrequent in dry woods and fields.
- Scutellaria lateriflora* L. Skullcap. Frequent along streams.
- Scutellaria parvula* Michx. Scarce: 2. Union. Along railroad; along stream.
- **Marrubium vulgare* L. Horehound. Common weed in fields and waste places.
- Agastache nepeloides* (L.) Ktze. Giant Hyssop. Infrequent in woods.
- **Nepeta Cataria* L. Catnip. Frequent to common in fields and waste places.
- **Glechoma hederacea* L. Ground Ivy, Gill-over-the-ground.
- Var. *hederacea*. Rare: Wayne. In hickory woods.
- Var. *parviflora* (Benth.) Druce. Abundant weed in lawns, gardens, fields, and waste places.
- Prunella vulgaris* L. Self-heal. Common weed in waste places. Collections are of var. *lanceolata* (Bart.) Fern.
- Dracocephalum virginianum* L. Dragon-head. Rare: near Midland in wet ditch along roadside.
- Dracocephalum formosius* (Lunell) Rydb. Dragon-head. Scarce: 2. Liberty—swampy bank of stream; New Antioch (JSV).
- **Lamium amplexicaule* L. Henbit. Infrequent weed in waste places.
- **Lamium purpureum* L. Purple Dead Nettle. Common weed in waste places; sometimes very abundant where found. A white-flowered form has been collected.
- **Leonurus Cardiaca* L. Motherwort. Common weed in fields and waste places.
- Stachys palustris* L. var. *palustris*. Hedge Nettle. Rare: Union. Hillside by Todd's Fork.
- Stachys tenuifolia* Willd. Hedge Nettle. Rare: Chester. On bank of stream.
- Stachys hispida* Pursh. Hedge Nettle. Scarce: Union, Wilson. Banks of streams.
- Stachys Riddellii* House. (*S. cordata* Riddell). Hedge Nettle. Scarce: 3. Chester—moist, rich woods; woods near Blanchester (KMR).
- Salvia reflexa* Hornem. (*S. lanceaefolia*, of G. M., 7th ed.). Rare: Chester. In corn field.
- Monarda fistulosa* L. Wild Bergamot. Frequent in open woods, fields, and along roadsides.
- Monarda clinopodia* L. Rare: Union. Moist woods.
- Blephilia hirsuta* (Pursh) Benth. Wood Mint. Scarce: 3. Chester, Richland, Wilson. Moist, rich woods.
- Hedeoma pulegioides* (L.) Pers. Pennyroyal. Common in fields and woods.
- Pycnanthemum flexuosum* (Walt.) BSP. Mountain Mint. Infrequent in ITP in swampy places.
- Pycnanthemum virginianum* (L.) Durand & Jackson. Mountain Mint. Scarce: 2. Richland—along railroad; New Antioch (JSV).
- Lycopus virginicus* L. Water Horehound. Frequent in wet places.
- Lycopus americanus* Muhl. Water Horehound. Frequent in wet places.
- Lycopus rubellus* Moench. Water Horehound. Rare: near New Antioch, 1892 (JSV).
- Mentha arvensis* L. var. *villosa* Benth. Field Mint. Frequent in moist places.
- **Mentha spicata* L. Spearmint. Common in moist places, usually along streams.
- **Mentha rotundifolia* (L.) Huds. Rare: near Farmer's Station in 1936 along a road (KMR).
- Collinsonia canadensis* L. Stoneroot. Infrequent: 5. Marion, Vernon, Union, Green, Adams. Moist, rich woods.
- **Perilla frutescens* (L.) Britt. Rare: near Vienna in 1934 (KMR).

Solanaceae

- **Nicandra physalodes* (L.) Gaertn. Apple-of-Peru. Scarce: 3. Vernon, Chester, near New Antioch (JSV). In corn fields.
- Physalis pubescens* L. Wayne. In cultivated field.
- Physalis heterophylla* Nees. Scarce to infrequent in waste land.
- Physalis subglabrata* Mack. & Bush. Smooth Ground Cherry. Common in fields and waste places.
- **Solanum Dulcamara* L. Occasional in waste places.
- Solanum americanum* Mill. Nightshade. (cf. Stebbins and Paddock, 1949; Fernald, 1950). Infrequent to frequent in open woods and fields. Formerly, known incorrectly as *S. nigrum* L.
- Solanum carolinense* L. Horse Nettle, Sand Brier. Frequent weed in fields and waste places.
- **Datura Stramonium* L. Jimson Weed. Common weed in cultivated fields and waste places.

Scrophulariaceae

- Gratiola neglecta* Torr. Frequent in ITP in wet places.

- Leucospora multifida* (Michx.) Nutt. Frequent in wet places by streams.
Mimulus ringens L. Monkey Flower. Frequent in wet places.
Mimulus alatus Ait. Winged Monkey Flower. Frequent to common in wet places.
Lindernia dubia (L.) Pennell.
 Var. *dubia*. Scarce: Vernon. Wet places.
 Var. *riparia* (Raf.) Fern. Rare: Washington. Shore of Lake Cowan.
 * *Verbascum Thapsus* L. Mullein. Abundant weed in fields and waste places.
 * *Verbascum Blattaria* L. Moth Mullein. Common weed in fields and waste places.
Chelone glabra L. Turtlehead. Scarce: Jefferson, Adams. Wet places.
Penstemon Digitalis Nutt. Foxglove Beard-Tongue. Infrequent to frequent on roadsides and in fields. Collection from northeast Wilmington closer to *P. alluviorum* Pennell, but this species probably should be united with *P. Digitalis*.
 [*Penstemon calycosus* Small] Cited by Pennell (1935) from Blanchester (Braun). Probably, to be found elsewhere in county.
Penstemon pallidus Small. Rare: Adams. Wooded hillside.
Scrophularia marilandica L. Figwort. Frequent in woods.
Collinsia verna Nutt. Blue-eyed Mary. Rare: Chester. In open woods.
 * *Linaria vulgaris* Hill. Butter-and-Eggs. Scarce: 2. Richland—along roadside; New Vienna (CPI).
 * *Chaenorrhinum minus* (L.) Lange. Infrequent along railroads.
Veronicastrum virginicum (L.) Farw. Culver's Root. Scarce: Wilson—poorly-drained oak-hickory woods; New Antioch (JSV).
 * *Veronica serpyllifolia* L. Thyme-leaved Speedwell. Infrequent in fields.
Veronica peregrina L. var. *peregrina*. Purslane Speedwell. Infrequent in cultivated fields.
 * *Veronica arvensis* L. Corn Speedwell. Union. Along stream.
Veronica officinalis L. Common Speedwell. Frequent in fields and woods.
Veronica salina Schur. (*V. comosa* Richter, of G. M.) Rare: Liberty. Muddy bed of stream.
Dasistoma macrophylla (Nutt.) Raf. Mullein Foxglove. Frequent in woods.
Aureolaria flava (L.) Farw. var. *macrantha* Pennell. False Foxglove. Rare: near Westboro in openings of pin oak woods, 1924 (Braun).
Gerardia purpurea L. var. *purpurea*. Purple Gerardia. Scarce in ITP: 2. Jefferson. Moist, fallow field; moist soil along railroad.
Gerardia tenuifolia Vahl var. *tenuifolia*. Slender Gerardia. Scarce: 2. Vernon. Dry, wooded slopes.
Pedicularis canadensis L. Wood Betony, Lousewort. Rare: Jefferson. Moist clearing in pin oak forest.

Bignoniaceae

- Campsis radicans* (L.) Seem. Trumpet-creeper, Trumpet Vine. Common along roadsides and in woods.

Orobanchaceae

- Conopholis americana* (L.) Wallr. Squaw-root. Rare: Vernon. In moist, rich woods, under beech and sour gum.
Epifagus virginiana (L.) Bart. Beech-drops. Frequent in woods, under beech.

Acanthaceae

- Ruellia strepens* L. Smooth Ruellia. Frequent in woods.
Ruellia humilis Nutt. var. *frondosa* Fern. Scarce: Liberty, Richland. Dry, open place; on railroad embankment.
Justicia americana (L.) Vahl. (*Dianthera americana* L.). Water Willow. Abundant on bars and in shallow water in all large streams.

Phrymaceae

- Phryma leptostachya* L. Lopseed. Frequent in woods.

Plantaginaceae

- Plantago Rugelii* Dcne. Rugel's Plantain. Abundant along roadsides, in lawns and fields, and in all kinds of waste places.
 * *Plantago lanceolata* L. English Plantain. Abundant in same and similar habitats as preceding species.
Plantago virginica L. Dwarf Plantain. Scarce: 3. Union, Liberty, Vernon. In pastures, fields and waste places.
Plantago aristata Michx. Large-bracted Plantain. Infrequent in eroded fields and waste places, particularly in southern part of county.

Rubiaceae

- Houstonia caerulea* L. Bluets. Scarce: 3. Vernon, Jefferson. Moist or wet soil in open woods.
Houstonia purpurea L. Large Houstonia. Frequent: 8. Union, Chester, Liberty, Vernon, Washington. Moist or dry woods of various types; crevices of limestone cliff; abandoned field; dry, open slope.
Mitchella repens L. Partridgeberry. Infrequent: 4. Vernon, Jefferson. In pin oak woods and beech woods of ITP.
Cephalanthus occidentalis L. Buttonbush. Infrequent in wet places and along streams.
Diodia teres Walt. var. *teres*. Rare: Jefferson. Along railroad.
Galium circaezans Michx. var. *hypomalacum* Fern. Wild Licorice. Frequent in woods.
Galium pilosum Ait. Hairy Bedstraw. Chester. In abandoned field.
Galium aparine L. Cleavers. Common in moist woods and waste places.
Galium triflorum Michx. Sweet-scented Bedstraw. Common in moist woods.
**Galium verum* L. Yellow Bedstraw. Rare: Union. In field.
Galium concinnum T. & G. Pretty Bedstraw. Common in dry woods.
Galium obtusum Bigel. Scarce to infrequent in wet places.
Galium tinctorium L. (*G. Claytoni* Michx.). Infrequent in wet places.

Caprifoliaceae

- Viburnum acerifolium* L. Maple-leaved Viburnum. Scarce in moist woods.
Viburnum lentago L. Nannyberry. Infrequent in swampy woods.
Viburnum prunifolium L. Black Haw. Frequent in woods.
Viburnum dentatum L. var. *deamii* (Rehder) Fern. (sensu B. & B.). Infrequent: Jefferson, Clark. Poorly-drained woods of ITP.
Sambucus canadensis L. Elderberry. Common in moist places.
**Lonicera japonica* Thunb. Japanese Honeysuckle. Union. Woods by Sugar Grove Cemetery, Wilmington.
Lonicera proliifera (Kirchn.) Rehder. (*L. Sullivantii* Gray). Grape Honeysuckle. Rare: Richland. Elm-ash woods.
Symphoricarpus orbiculatus Moench. Coralberry. Scarce: Jefferson—along railroad; "Clinton Co." (CGW).
Triosteum perfoliatum L. (sensu lat.). Horse-gentian. Scarce: Wilson, Richland. Present taxonomic treatments of its varieties are inadequate.

Valerianaceae

- Valeriana pauciflora* Michx. Scarce: 2. Vernon, Adams. In moist, rich, wooded bottomland.
Valerianella radiata (L.) Dufr. Corn Salad.
 Var. *radiata*. Common in moist places.
 Var. *intermedia* (Dyal) Gleason was collected in 1902 by C. P. Ingold, whose specimen was determined by Sarah C. Dyal.

Dipsacaceae

- **Dipsacus sylvestris* Huds. Teasel. Common in open woods, fields, and waste places.

Cucurbitaceae

- Echinocystis lobata* (Michx.) T. & G. Wild Balsam-apple. Scarce in bottomlands.
Sicyos angulatus L. Bur Cucumber. Scarce in bottomlands.

Campanulaceae

- Campanula americana* L. Tall Bellflower. Common in woods.
Specularia perfoliata (L.) A. DC. Venus' Looking Glass. Scarce in moist places.

Lobeliaceae

- Lobelia cardinalis* L. Cardinal Flower. Infrequent in wet places, mainly in ITP.
Lobelia siphilitica L. Great Lobelia. Common in moist places. Forma *albiflora* (Britt.) House was collected in Union Twp.
Lobelia inflata L. Indian Tobacco. Common in open woods and fields.

Compositae

- Helianthus hirsutus* Raf. Rare: Clark. Along railroad.
Helianthus decapetalus L. Wild Sunflower. Rare: near Farmer's Station in 1901 (CPI).
Helianthus tuberosus L. Jerusalem Artichoke. Abundant along roadsides and in bottomlands.
Helianthus grosseserratus Martens. Sawtooth Sunflower. Rare: Union. Dry soil along railroad.

- Verbesina alternifolia* (L.) Britt. (*Actinomeris alternifolia* (L.) DC.). Wing-stem. Common in fields and bottomlands.
- Eclipta alba* (L.) Hassk. Yerba de Tajo. Infrequent along streams and in wet places. in bottomlands; often with *Helianthus tuberosus*.
- Rudbeckia hirta* L. (sens. lat.) Black-eyed Susan. Common in fields and waste places. Quite variable.
- Rudbeckia fulgida* Ait.
- Var. *Sullivantii* (Boynton & Beadle) Cron. (incl. *R. speciosa* Wenderoth). Scarce: 2. Union—wet place; near Blanchester (ELB)
- Var. *fulgida*. Rare: near Blanchester in fields (ELB).
- Rudbeckia triloba* L. Brown-eyed Susan. Frequent in open woods and moist places.
- Rudbeckia laciniata* L.
- Var. *laciniata*. Coneflower. Frequent in bottomlands.
- *Var. *hortensis* Bailey. Golden-glow. Near New Vienna in 1939 along railroad (KMR).
- Bidens cernua* L. Nodding Bur Marigold. Frequent in wet places.
- Bidens tripartita* L. (incl. *B. comosa* (Gray) Wieg.). Chester. Along stream.
- Bidens frondosa* L. Beggar's Ticks. Frequent in moist places.
- Bidens vulgaris* Greene var. *vulgata*. Beggar's Ticks. Frequent in moist places.
- Bidens bipinnata* L. Spanish Needles. Common in moist places.
- Bidens polylepis* Blake. Infrequent in ITP in fields.
- **Cosmos bipinnatus* Cav. Cosmos. Near Blanchester in field, 1935 (KMR).
- Coreopsis tripteris* L. Tall Coreopsis. Infrequent: Jefferson. Moist places in woods and in open in ITP.
- **Galinsoga ciliata* (Raf.) Blake. Galinsoga. Common weed in cultivated land.
- Polymnia canadensis* L. Leafcup. Rare: Vernon. Bottomland woods.
- Silphium perfoliatum* L. Cup-plant. Frequent in bottomlands along larger streams.
- Silphium trifoliatum* L. var. *trifoliatum*. Whorled Rosinweed. Rare: Vernon. Dry, rocky hillside in oak woods.
- [*Silphium terebinthinaceum* Jacq.] Prairie Dock. Reported in Transeau and Williams (1929).
- Ambrosia trifida* L. Great Ragweed. Common weed, especially in bottomlands.
- Ambrosia artemisiifolia* L. Common Ragweed. Abundant weed in fields and waste places.
- Xanthium strumarium* L. Cocklebur. Common weed in fields and waste places. Apparently, var. *canadense* (Mill.) T. & G. is more common in county than var. *glabratum* (DC.) Cron.
- Helenium autumnale* L. var. *autumnale*. Common Sneezeweed. Infrequent: Vernon, Chester, Richland. In moist places, usually along streams.
- Helenium nudiflorum* Nutt. Purple-headed Sneezeweed. Scarce: 2. Washington—in pasture; near Farmer's Station (KMR).
- **Anthemis Cotula* L. Dog Fennel. Common weed around barns and in waste places.
- **Achillea Millefolium* L. Yarrow. Common weed along roadsides, in fields and waste places.
- **Chrysanthemum Leucanthemum* L. var. *pinnatifidum* Lecoq & Lamotte. Oxeye Daisy. Common along roadsides and in fields.
- **Tanacetum vulgare* L. Tansy. Infrequent along roadsides and railroads.
- Artemisia ludoviciana* Nutt. Western Mugwort. Rare: near Farmer's Station along road, 1934 (KMR).
- **Artemisia annua* L. Wormwood. Common weed around barns and in waste places.
- Senecio obovatus* Muhl. Ragwort. Common in woods.
- Senecio aureus* L. Golden Ragwort. Frequent in wet places, often in woods.
- Erechtites hieracifolia* (L.) Raf. Fireweed. Infrequent in moist places.
- Cacalia atriplicifolia* L. Indian Plantain. Frequent in woods and thickets, mainly in western part of county.
- Solidago flexicaulis* L. (*S. latifolia* L.). Zigzag Goldenrod. Frequent in woods.
- Solidago caesia* L. Wreath Goldenrod. Frequent in woods.
- Solidago nemoralis* Ait. Old-field Goldenrod. Frequent in abandoned and eroded fields.
- Solidago patula* Muhl. var. *patula*. Rough-leaved Goldenrod. Rare: Adams. In wet seepage area around spring at base of "Bunker Hill".
- Solidago ulmifolia* Muhl. Elm-leaved Goldenrod. Infrequent in dry woods.
- Solidago rugosa* Mill. Infrequent: wet places in ITP. Collections include subsp. *rugosa* var. *rugosa* and subsp. *aspera* (Ait.) Cron.
- Solidago gigantea* Ait. var. *gigantea*. Frequent in wet places, especially in ITP.
- Solidago canadensis* L.
- Var. *canadensis*. Canada Goldenrod. Vernon. On dry hillside. Perhaps to be found elsewhere.
- Var. *scabra* (Muhl.) T. & G. (*S. altissima* L.) Tall Goldenrod. Abundant along roadsides, in fields, and waste places. This is the commonest goldenrod in county.
- Solidago graminifolia* (L.) Salisb. var. *Nuttallii* (Greene) Fern. Infrequent in moist places, mainly in ITP.
- Aster Shortii* Lindl. Short's Aster. Scarce: Chester, Vernon. Dry woods in thin soil over limestone.

- Aster cordifolius* L. Heart-leaved Aster. Frequent in woods.
Aster sagittifolius Willd. Scarce in woods.
Aster patens Ait. Scarce: 2. Vernon. Dry, wooded hillsides. Collections are more or less intermediate between typical variety and var. *phlogifolius* (Muhl.) Nees.
Aster novae-angliae L. New England Aster. Common along roadsides and in moist places.
Aster prenanthoides Muhl. Frequent in moist or wet places.
Aster umbellatus Mill. Flat-topped Aster. Infrequent in clearings and open woods on flats of ITP.
Aster pilosus Willd. var. *pilosus*. Frostweed Aster. Abundant weed in fields and along roadsides. An ecological equivalent of *Erigeron annuus*.
Aster lateriflorus (L.) Britt. Common in woods and thickets.
Aster vimineus Lam. Scarce in ITP: 2. Jefferson. Moist, low place along railroad; moist woods.
Aster praealtus Poir. Scarce: 2. Vernon—gravelly bank of stream; wet meadows near Midland (ELB).
Erigeron philadelphicus L. Fleabane. Frequent in moist or wet places.
Erigeron strigosus Muhl. var. *strigosus*. Vernon—in moist field in ITP.
Erigeron annuus (L.) Pers. Whitetop. Abundant weed in fields and along roadsides.
Conyza canadensis (L.) Cron. (*Erigeron canadensis* L.). Horseweed. Common weed in fields and waste places.
Antennaria neglecta Greene var. *neglecta*. Pussy's Toes. Chester—in field. (Because of taxonomic difficulties in *Antennaria*, no frequency ratings are given).
Antennaria plantaginifolia (L.) Richards. Pussy's Toes, Plantain-leaved Everlasting.
 Var. *arnoglossa* (Greene) Cron. Vernon—on wooded ridge.
 Var. *ambigens* (Greene) Cron. (*A. fallax* Greene). Chester, Vernon. In field; on wooded hillside.
Gnaphalium purpureum L. var. *purpureum*. Purple Everlasting. Scarce: 3. Jefferson, Vernon. Moist fields in ITP.
Gnaphalium obtusifolium L. Sweet Everlasting. Infrequent in fields.
 **Inula Helenium* L. Elecampagne. Infrequent in open woods.
Eupatorium purpureum L. Joe-Pye Weed. Frequent in dry or moist woods.
Eupatorium fistulosum Barratt. Joe-Pye-Weed. Frequent in moist woods.
Eupatorium perfoliatum L. Boneset. Common in moist or wet places.
Eupatorium serotinum Michx. Infrequent in ITP in poorly-drained clearings and open woods.
Eupatorium rugosum Houtt. (*E. urticaefolium* Reich.). White Snakeroot. Common in woods.
Vernonia altissima Nutt. Ironweed. Abundant in fields and bottomlands. Plants from two localities have one character of *V. missurica* Raf. A specimen collected by Vanderbilt (OSU herb.) from near New Antioch in 1892 was identified previously (Schaffner, 1932) as var. *taeniotricha* Blake; it appears intergradient between *V. altissima* and *V. missurica*.
Elephantopus carolinianus Willd. Elephant's-foot. Scarce: 2. Wilson, Liberty. Disturbed soil in moist woods; clearing in bottomland.
 **Arctium minus* Schk. Burdock. Common weed in waste places.
 **Cirsium vulgare* (Savi) Airy-Shaw. Bull Thistle. Frequent to common in fields, along streams, and in waste land.
Cirsium discolor (Muhl.) Spreng. Field Thistle. Abundant weed in fields and in a variety of other habitats.
 **Cirsium arvense* (L.) Scop. Canada Thistle. Common weed in fields and waste places.
 **Centaurea repens* L. Rare: Near New Vienna along railroad, 1939 (KMR).
 **Centaurea maculosa* Lam. Spotted Knapweed. Scarce: 2. Green Union. Roadside, field.
 **Centaurea Cyanus* L. Cornflower, Batchelor's Button. Rare: near New Vienna along railroad, 1939, (KMR).
 **Centaurea Jacea* L. Rare: Union. In field.
Prenanthes alba L. Rattlesnake-root. Rare: Vernon. Dry hillside.
Prenanthes altissima L. Rattlesnake-root. Infrequent to frequent in woods.
Hieracium venosum L. Veined Hawkweed. Scarce: 2. Vernon, Chester. Dry, wooded hillsides.
Hieracium Gronovii L. Rare: Jefferson. Open woods.
Hieracium scabrum Michx. Rough Hawkweed. Rare: Liberty. Dry open place.
 **Taraxacum officinale* Weber. Dandelion. Abundant and ubiquitous weed.
 **Sonchus arvensis* L. Field Sow Thistle. Near New Vienna along railroad, 1937 (KMR).
 **Sonchus asper* (L.) Hill. Spiny Sow Thistle. Infrequent weed in waste places.
Lactuca canadensis L. Wild Lettuce. Infrequent in woods. Collections include var. *latifolia* Ktze. and var. *obovata* Wieg.
 **Lactuca Scariola* L. Prickly Lettuce. Common weed along roadsides and in waste places.
 **Lactuca saligna* L. Willow-leaved Lettuce. Frequent weed along roadsides and in waste places.
Lactuca floridana (L.) Gaertn. Wild Lettuce. Frequent in moist woods and thickets. Both var. *floridana* and var. *villosa* (Jacq.) Cron. have been collected.

- Lactuca biennis* (Moench) Fern. Wild Lettuce. Scarce: 3. Jefferson—moist woods; near New Vienna, 1901 (CPI).
- **Cichorium Intybus* L. Chicory. Common weed along roadsides and in fields.
- Krigia biflora* (Walt.) Blake. (*Cynthia virginica* (L.) D. Don.). Frequent in moist woods and in moist, open places.
- **Tragopogon pratensis* L. Goat's-beard. Frequent weed along railroads and roadsides.

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